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APRIL 1935
VOL. 36, NO. 10

DESIGN

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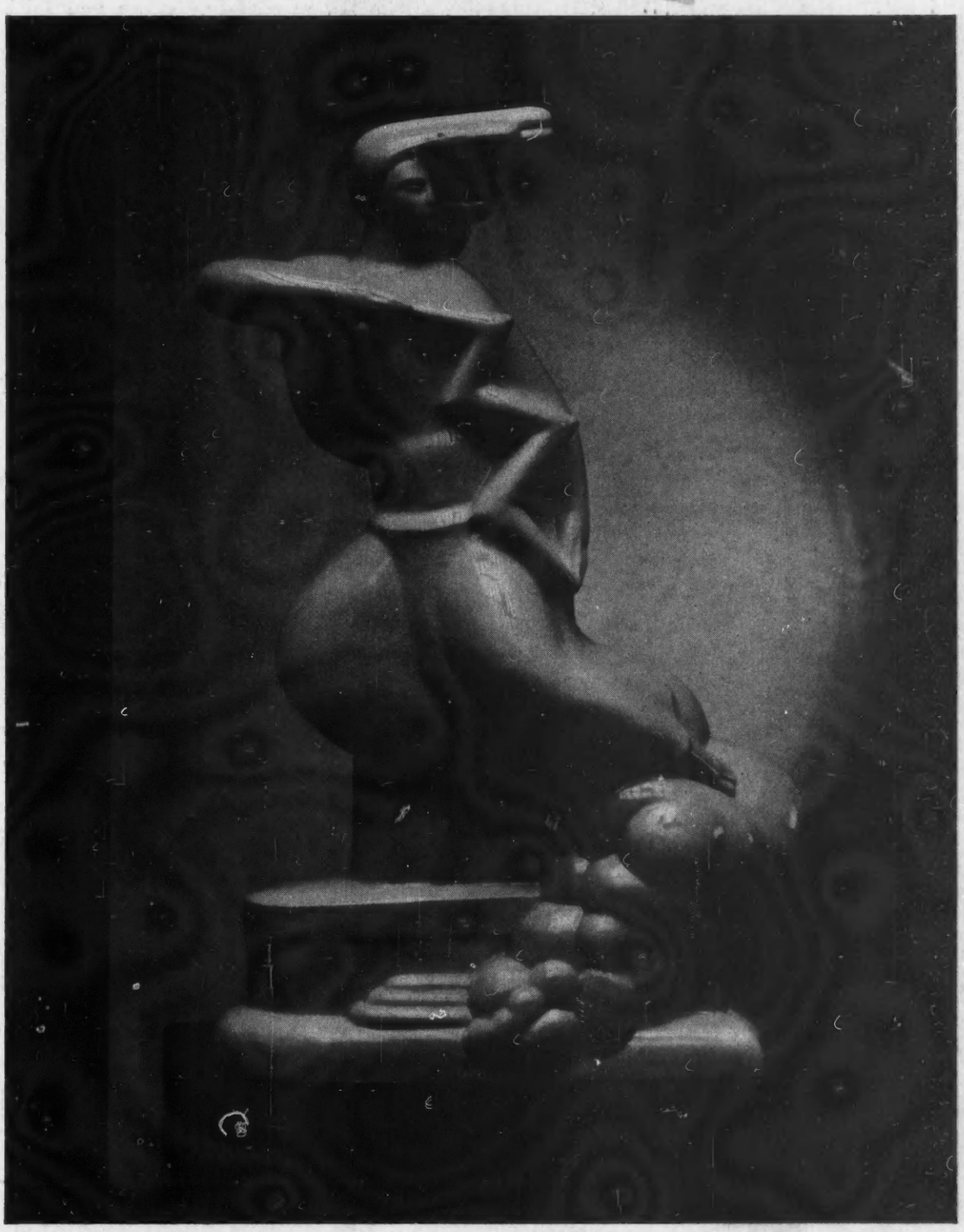

CERAMICS

PUBLISHED IN THE INTEREST OF THE DECORATIVE ARTS

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• THE EDITOR'S PAGE •

This issue of DESIGN is devoted specifically to ceramic art for the following reasons:

To commemorate the birthday of Adelaide Alsop Robineau, who with her husband, Samuel E. Robineau, was the founder of this magazine. We wish to honor her not only as a master potter and artist, but also as a person of strong convictions who believed firmly in the advocation of pottery as a great educational force.

To clarify many points which are vague in the minds of teachers, to help those struggling under adverse conditions with the complications of the craft, to support and inform those whose interests are ebbing in the half-light of their uncertainty.

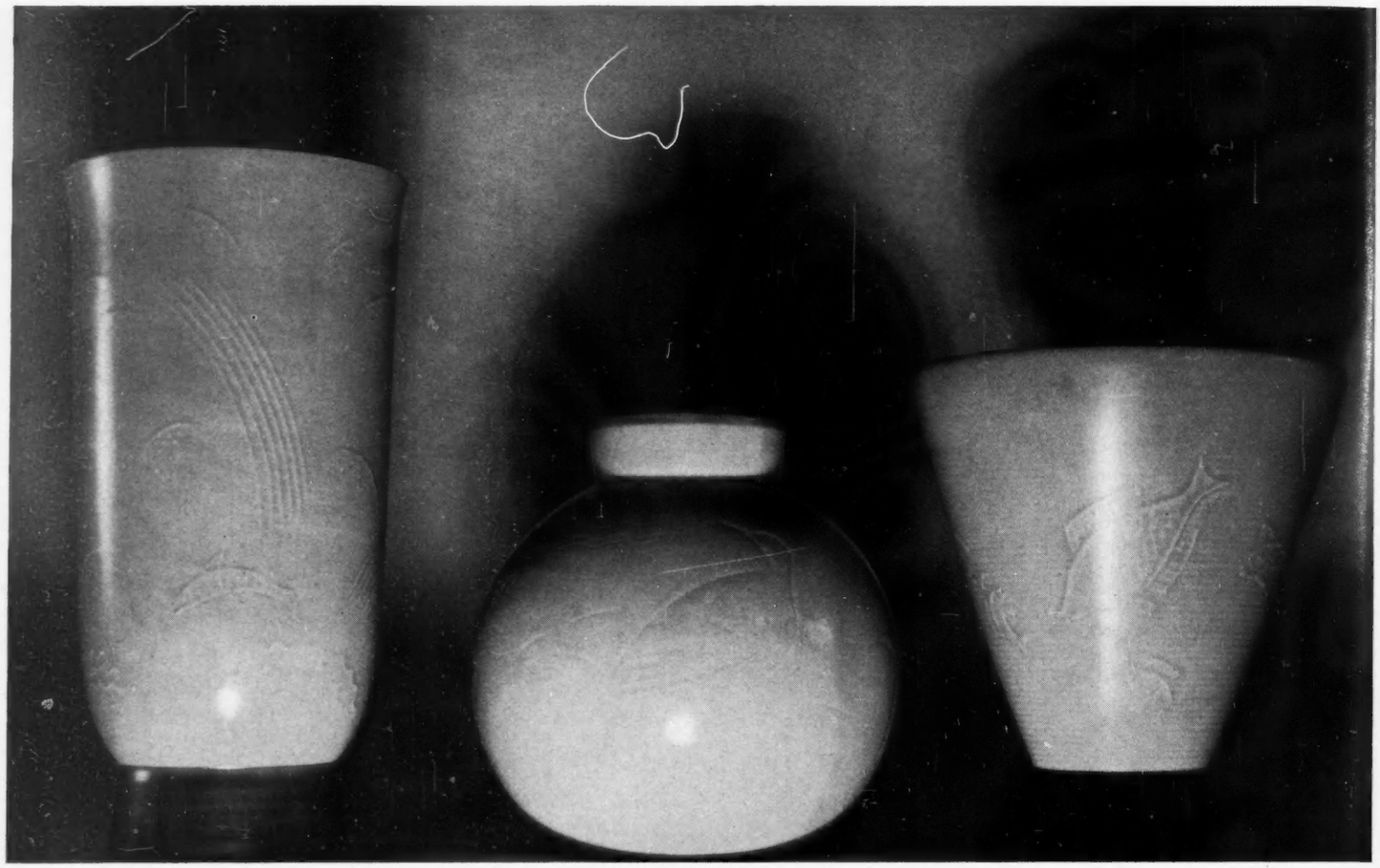
To foster in art education the use of clay as a medium pre-eminently responsive to the spontaneous and natural creative expression of children, a material with innate possibilities for captivating the imagination and absorbing the interest. The purpose of art education is not the generation of great artists in numbers, for this would postulate the impossible. The aim is to produce within the individual, through experience, a means for a richer and fuller life. To the individual, the concept is of major importance. The manifestation of this concept belongs to another type of activity, and although they are usually linked in the minds of most persons, there should be a definite distinction made between these two phases. Conception, that is the conceiving of ideas, is latent in everyone, but the power to manifest is rare.

For the craftsman great possibilities present themselves. He is happily unhampered by subject matter. Pottery forms are abstract and carry no further meaning than they hold within themselves. They should act not as symbols reminiscent of natural objects, a system of memonics, but as the embodiment of universality. This, pottery has in common with music. It is a fertile fallow in which can germinate those forms and correlations of form which enfold the essence of sensation. The forms, within their field of performance, should be kept pure, and by purity is meant a maximum efficiency, intensity, and quality issuing from the utmost economy of means, together with a rigorous regard for the capacities and limitations of the medium.

Decoration is not a thing in itself but only a means by which the potter can further develop the intention set forth in the generating lines of the piece. Failing in this, it becomes superfluous and irrelevant, merely the purveyor of verbiage.

As this goes to press we wish to thank the contributors who so willingly gave us support and co-operation, and those whose photographs and drawings are shown.

Carlton Atherton



FUNDAMENTAL FORM

Those three primary forms, the cylinder, the sphere, and the cone, from which the potter evolves thousands of variants and combinations are illustrated above. These are Danish. They demonstrate the simplicity, h o n e s t y and reserve of the modern potter.

A PRIMER OF CERAMIC PROCESSES

By CHARLES M. HARDER
New York State School of Ceramics,

One of man's first inventions was the wheel which he found could be used both as a means of transportation and a machine for shaping clay. Few of us have watched a potter "throwing" on the wheel, without experiencing a secret, if not expressed, desire to feel a ball of clay respond to our own hands. There is nothing unusual in the fact that small children will eagerly avail themselves of the opportunity to knead a plastic material into what may seem to the adult eye, weird and mystifying forms; and that grownups should, when once a certain school boy embarrassment has been overcome, become completely absorbed in shaping things, which, if not quite as abstract in character are equally as soul satisfying to their creator.

Because of this universal creative urge, work with three-dimensional materials is coming to have an important place in the art curriculum of our public schools. Those responsible for such work readily admit that its object is to train neither artists nor artisans, but to develop a public capable of some means of creative expression, and of understanding and enjoying the creative efforts of others. Appreciation then becomes the keynote.

Since "paper lessons" in drawing and design are, in themselves, insufficient to develop an understanding of three-dimensional design, our curricula have come to include courses in the various handicrafts. Many times, however, these lessons consist mainly of "set" problems and exercises in manipulation, valuable no doubt in developing muscular coordination, and in adding to the student's fund of information, but doing little to help him solve the riddle of the material itself—its possibilities and limitations. Too often the opportunity and encouragement necessary to real creative effort is withheld and the student finds himself confronted with the task of executing a design probably conceived on paper, in a material about which he knows little. Unoriginal designs are executed in wholly unsuitable materials, using tools and processes which seem to cry aloud for other interpretations. In such instances we find coarse buff or red burning pottery clay taking on a mode of dress strangely reminiscent of Sevres porcelain, and high school students covering beautifully grained boards with a noxious brown stain.

There are many reasons for this type of teaching. The most obvious one perhaps is a lack of proper understanding upon the part of the teacher who has too often been trained by a similar method. And then there is the annual exhibition. Here the work of the students must be shown to a public that is always ready to applaud cleverness of execution and perfection of technique regardless of the merit of the idea expressed and the amount of creative effort involved.

However, in the interest of teaching real appreciation and of obtaining the maximum of cultural value from work with materials, our most courageous and progressive teachers are willing to forego the attempt to obtain adult work from children. This paper is intended for those of this group who would explore some of the potentialities of ceramic art.

To the unknown writer of the book of Genesis, the potter's art was an ancient craft, and the act of shaping clay symbolized that of creation itself—of expressing thought in terms of living form. It seems that man, himself the first product of that noble art, has always been a potter, leaving behind him on the "shard-rucks" of every land a dramatic record of this progress from earliest times. These records have endured because one of man's earliest discoveries was the fact that fire could harden clay. The imagination is stimulated when we try to picture the amazement of the savage who first discovered this phenomenon. Since most writers on the subject have invented their own myths concerning this event, you have the same privilege.

The materials of which a piece of pottery is made were present in the earth when the earth was formed. The two primal elements, earth and fire, are necessary to the completion of any ceramic product, and clay once hardened by fire can never again become clay. It is then converted into a glass-like substance, which will, if the fire is hot enough, become a fluid glass. Since fire is the only thing which can give clay this permanent character, the act of painting sun-baked clay, save in the temporary work of very small children, is an empty gesture. Where there is to be no attempt to complete the work by firing, it is sometimes better to leave it in the natural clay state than to attempt to give it a finished appearance by means of paint, varnish or shellac. These devices can only have negative value in teaching appreciation in that they are likely to cultivate a preference for flashy imitative products, and thus defeat our principal aim. To the resourceful teacher and her interested pupils the problem of erecting a pottery kiln offers interesting possibilities.*

Most ceramic products are shaped from plastic clay.

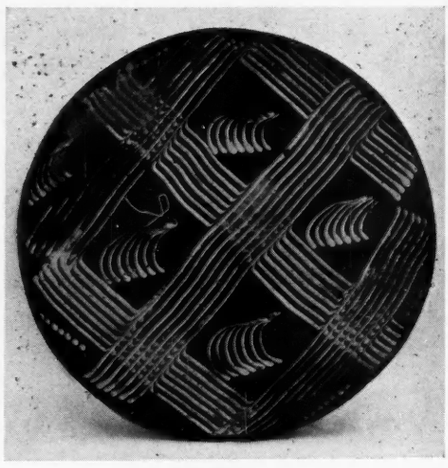
* See article by E. H. Strong.

EGYPTIAN JAR

A storage jar of the eighteenth dynasty, fine in form with painted decoration of colored clay.

SLIP WARE

The plate shown below is early English and shows a tulip design traced in a bold ceramic manner.



SLIP TRACINGS

This plate is Pennsylvania Dutch.

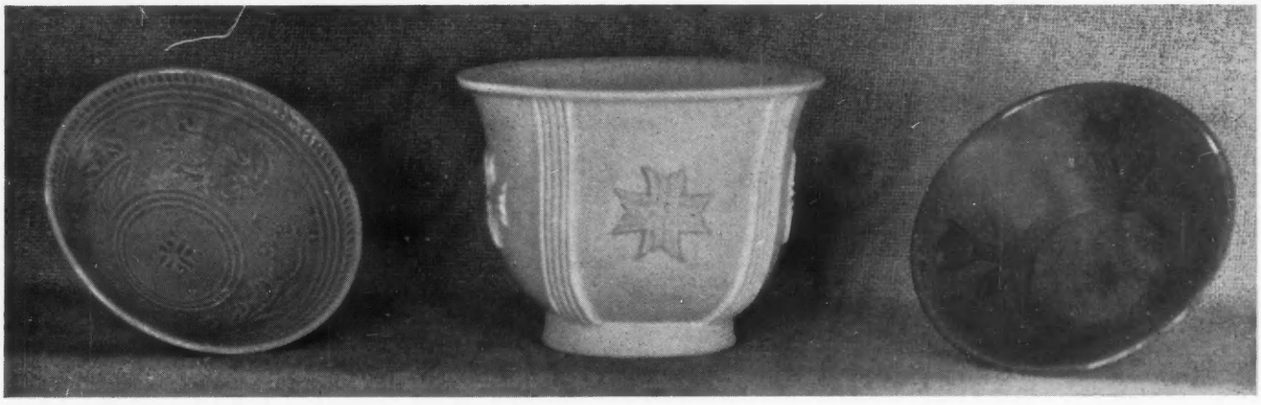
Just as there are many kinds of textiles with coarse and fine weaves, so there are many kinds of clay. Almost every small boy knows the location of a good bed of modeling clay, the color of which will, after burning, vary from a buff to reddish brown. This color is determined by the amount of iron present. The clays containing less iron are lighter and require a higher fire in order to become hard. They are not so common as red clays and are likely to be less plastic. White clays form one of the principal ingredients of china and porcelain.

The clays used by primitive peoples have been the common red or buff colored variety. Since those are the most plastic, will harden at a relative low temperature, and are the easiest to procure, they are the ones most suited to children's work.

This clay which can be supplied by the students themselves is sometimes ready for immediate use. Sticks, stones and coarse material may be removed by pulverizing the dry clay and passing it through a piece of screen wire. When it has been moistened to a plastic state and kneaded with the hands for a few moments it is ready for use.

The personality of clay of this type may be compared to that of coarse homespun woolen or tweed. It is friendly and unpretentious and demands free, spontaneous treatment, simple designs, and quiet, unselfconscious forms. The criticism often voiced of the work of the ancient greek potters is that they used forms more appropriate to metal and that these served only as a background upon which to display the skill of the vase painter. Their work showed admirable technique, intense feeling for line and form, but little sympathy with the nature of the material itself.

Let us examine some of the ways in which it is possible to treat a coarse red clay and still have the result in harmony with the material. One of the simplest means is to make use of the marks left by the



STONEWARE AND EARTHENWARE BOWLS

WILLIAM E. ROSS

tools and manner of shaping, allowing these to constitute a form of surface enrichment. In the case of a piece made on the potter's wheel, this might mean the spirals left by the potter's knuckles as the piece is drawn into shape. Ware built in coils with the hands should not attempt to disguise this fact to the extent of making the work appear machine made. There seems to be no valid reason why we should spend hours distributing hammer-marks over a piece of metal and the same length of time in removing thumb-marks from a piece of clay. This does not mean that careless work is desirable or to be tolerated, but simply that the textural effects possible with the maker's thumb, do contain some of the elements of beauty.

Certain American Indian tribes made small pottery dies or stamps which were held in the hand while the coils were pressed together, imparting a rich texture to the surface of the piece. Others used similar stamps and selected stones and shells, the impress of which were used to form patterned areas. Such devices are characteristics of many of the earliest forms of pottery decoration, and if used with some judgment as to pattern are capable of interesting possibilities. Another favorite method of the ancient potters was to incise plain bands and simple geometric ornament in the plastic clay. When used on wheel thrown ware this lends itself to such variations as the impress of combs and the rotation of cog wheels held against the piece as it revolves on the wheel.

Since ordinary clays vary as to their degree of redness, it is only natural to think of combining two clays of different colors. This must be done while both are in the plastic stage, or in the case of painting, while one clay is moist and the other fluid. The nature of the fluid painting medium should suggest the most appropriate means for handling it and the type of design to which it is most easily adapted. One cannot draw laboriously and carefully with such a material. Since it is heavy and viscous and applied with a brush the design should be spontaneous and brush-like in character. One may take advantage of the tendency of the painting clay or "slip" to lose its color where it is thinly applied, and secure interesting gradations of value.

The painting and incising may be combined if the piece is coated over its entire surface with a clay of another color, and the design scratched through to expose the color beneath. Since this type of decoration is done with a sharp instrument, the design should partake of that character.

There are countless methods for decorating ceramic wares. But the complication of processes is likely only to produce confusion. The few processes just described together with a pallete of simple, easily-prepared glazes have been sufficient to populate our museums with some of their finest treasures, and should certainly furnish the beginner with ample material for creative work.

A simple pottery glaze may be prepared by grinding together in water with a pestle and mortar the following materials:

Feldspar	102
Colemanite	123.6
Barium Carbonate	43.2
Flint	133.2

These will produce a clear glass at 960° Centigrade. If a white glaze is desired then 6 to 8 per cent of tin oxide may be added. The addition of 1 to 2 per cent of cobalt oxide will produce a blue glaze; 3 to 6 per cent of copper oxide will give a green; the same amount of oxide of uranium will produce yellow. For other types of glazes and their methods of application the reader is referred to the texts listed at the end of this article.

See Page 35

ANNE BRIGMAN

BUILDING AN IDEA

By **GLEN LUKENS**
Univ. So. Calif.

The ceramic worker stands rather alone among craftsmen, for his way of progress, though not more difficult than that of others, sends him out searching the earth for materials. He must then subject them to the demon of fire and snach them again from this demon at exactly the right moment. But this is getting ahead of the story. A potter's first question is, what shall these forms be that are to be born of clay and fire? The manner of working other ceramic materials like glass, stone, or porcelain may not be used with clay, for clay reacts only to pressure, and the only pressure an artist potter uses is that pressure from the hands.

One does not train his clay. He trains his emotions, and there lies the secret of success in fine art expression. Potters today have almost unlimited facilities for shaping their wares and for enriching the surfaces. Shapes now are bold and dignified, possessing at the same time a subtle quality of grace, and whether the designer be an expert or an amateur, the product may be good. The only difference in the two is the way each builds his idea and creates. Work does not work by itself any more than it did a thousand years ago. Work is an image of one's state of mind.

Clay working, and particularly that branch known as Pottery, is the art of surfaces. A fine pot or a cathedral each has meaning to us as a structure only by its surfaces. Circular form is more natural to the potter's craft because the plastic clay responds more readily and successfully to the centrifugal force of the potter's wheel. It was the first machine to appear and will be the last to disappear from the ceramic industry. Today circular forms still retain the favor of the average worker in clay and please those who use the potter's product.

Obviously the potter in manipulating his clay must use modern mechanical devices; and since his wares must live harmoniously with machine-made articles in a home, they must be designed with that particular brand of design that comes from a machine. It is easily possible by using mechanical devices to overwork the principle of simplicity. Only the human hand and mind working together can be depended upon to produce satisfying patterns in those instances where form must of necessity be enriched by pattern. Sim-

ACHIEVEMENT

When one's body and self combine for achievement the result is no longer a thing. It becomes the incarnation of an idea.

UTILITY

The illustration at the right demonstrates the proper combination of functional use with beauty in proportion, line, form, and color. This work was done by students of the author at the University of Southern California, as was all the work shown with this article.

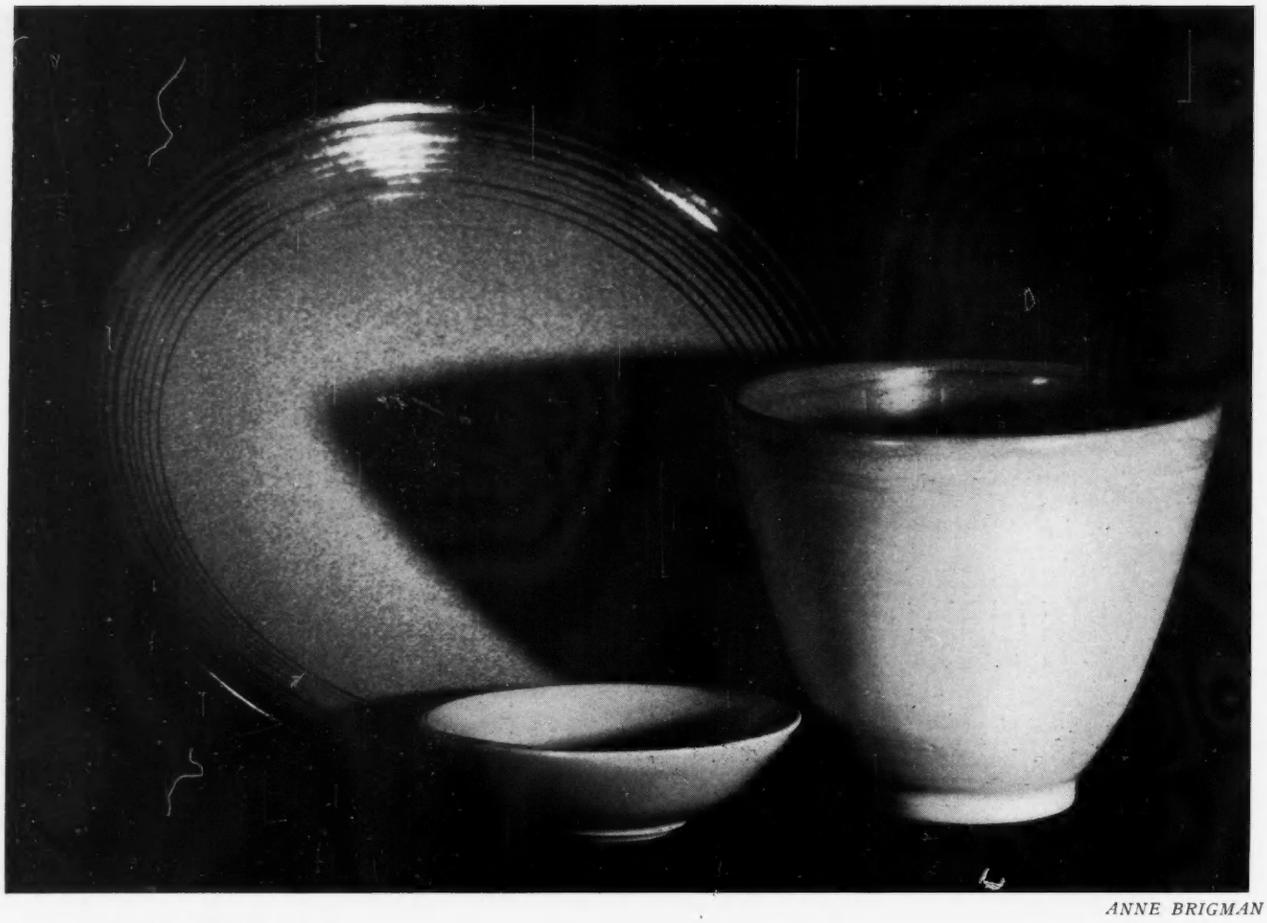
ANNE BRIGM

plicity carried too far results in mechanical dullness except where machine-made surface texture alone has been the object sought for.

Architecture has always been a good pace-maker for the ceramist, and architecture today, with its new methods, its varied use of mechanical devices, and its new vocabulary of proportions, is gradually and surely creating new needs in the ceramic field. These new machines and new materials after all are only tools. The problem remains ever, how shall we use them? The important considerations are these: good design, good taste, and high craftsmanship. Wherever we find the potter's art being carried on we observe with dismay that design has not caught up with the technology of the craft. Careful taste and understanding of present-day problems will direct us, and taste is best developed through active exercise. We must do much building of ceramic forms. We must try new methods of surface enrichment. With a mind open to judgment and dispassionate opinion, we must experiment with new proportions and dimensions.

One's achievement in any endeavor is rarely, if ever, greater than one's understanding, and the approach to this so-called modernism in line and form in the space arts should be studied. Modernism is not a technical process; it is a manner of thinking. And it is through our thinking that we arrive at achievement. Much is being said these days concerning the individual's attitude toward creative art, and we who teach are demanding that our students "look within" for their inspiration. Artists have always felt that inspiration comes from within, but only in very recent years has the average art teacher felt enough encouragement to stand before groups and openly express this conviction, with the assurance that his listeners would give more than a half-bored interest. The new dimensions and proportions can not be measured. They can only be felt, so this brings into use the emotions. They are the most valuable tools the new space-art teacher and student can use.

There is no infallible method of procedure to good results. The following suggestion, however, should be helpful, although the one who gives it may be misunderstood. It is this: "Don't design. Build." When you build a ceramic object, you do it on a wheel or after some other favorite method, and you use clay;



ANNE BRIGMAN

HONESTY

The honesty of craftsmanship with the frank use of the materials employed is well illustrated in the beautiful, simple bowls shown above.

when you fashion a spoon, you use silver, and you do it on an anvil with a hammer; and when you create a figure, you do it with stone and a chisel and hammer. You fix firmly in your mind that the IDEA is the thing and that your clay or silver or stone is merely the raiment for that idea.

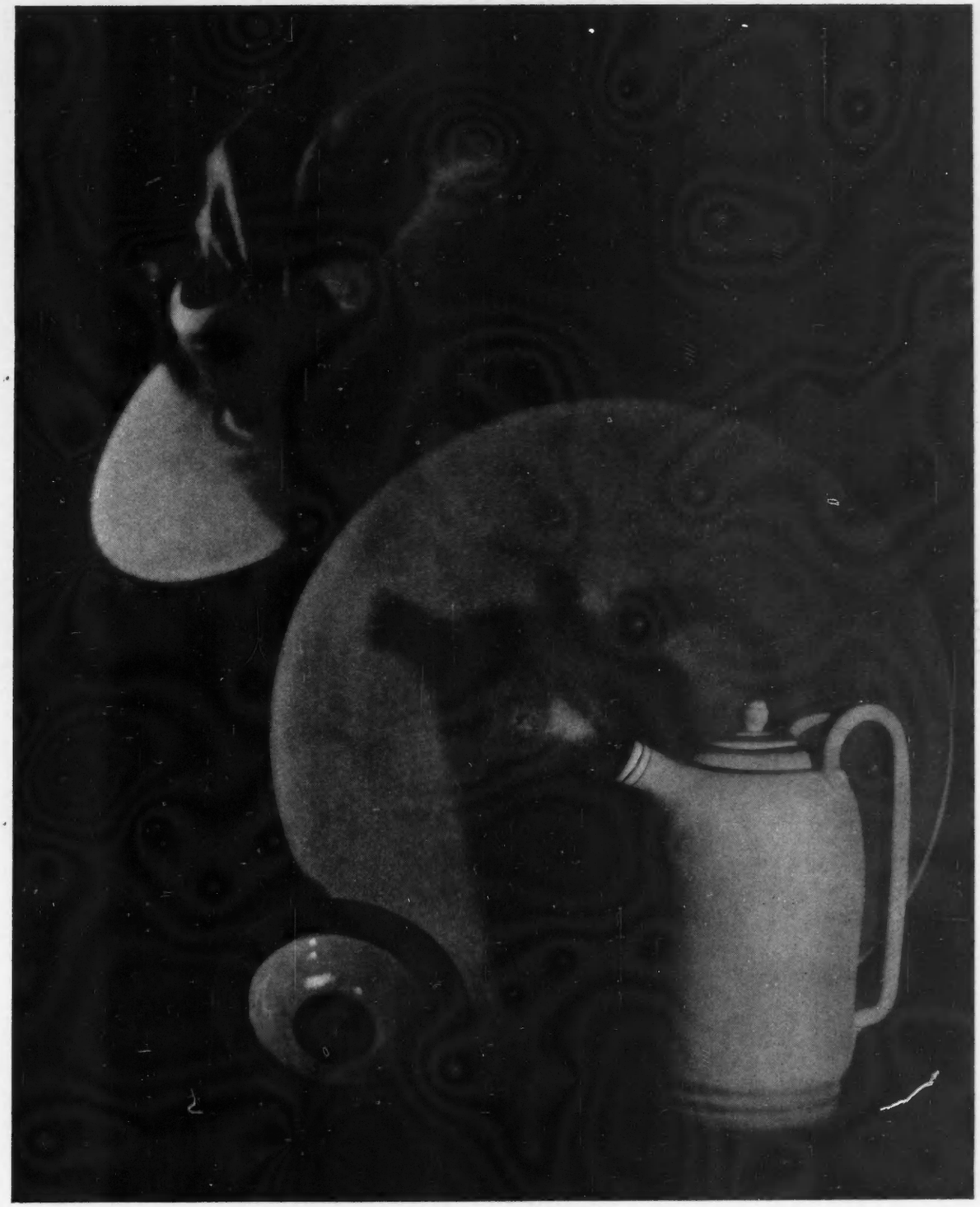
Do not sit down and with great patience draw and render in color a finished drawing of the idea which you hope to express; if you do, you will usually see the "finish" before you get to the clay, the silver, or the stone. Capture the idea when it comes by working directly in the medium. This direct method in a few short months leads to the spiritualization of the medium, and on the day when a worker is able thus to endow his materials, the forms he builds take on the quality of life. They are no longer things. They become the incarnation of his idea.

In our work in the University of Southern California we do much experimental work, though we depend chiefly on line, form and color; and when we apply more surface enrichment than that which is afforded by the glaze, we do so by such favorite methods as painting the surface of the unfired glaze with the oxides of copper, uranium, cobalt, iron, and manganese hydroxide. The latter produces a fine color from violet to a rich wine color.

We also use colored clay slip made by adding to our regular modelling clay about ten or fifteen per cent of colorant—cobalt oxide for blue slip, pink oxide for rose slip, and so on. When glaze is applied over these slips, we use a translucent tinted glaze with fine effect.

Among our favorite methods of surface enrichment is that of applying a stationary opaque eggshell white glaze which matures around cone 04. On this glaze, before it is fired, we brush a bold strong pattern, using glazes which develop at about 07 or 08. The pattern is often strengthened by tracing it with dark blue or black underglaze.

Here in Southern California we are far from the great centers of ceramic study, but we do have many fine technicians and artists from other sections of the country, and they are always ready and willing to assist. Then too we have one great inspiration always near at hand. That is the vast heritage left to us by the previous civilizations in the deserts which lie just beyond the mountains. America knows very little about these people, but they are masters in the art of building body and self into successful expression.



EVOLUTION

This fine synthetic photograph was made by Anne Brigman and shows the hands of Glen Lukens and some pottery of his students at the University of Southern California.

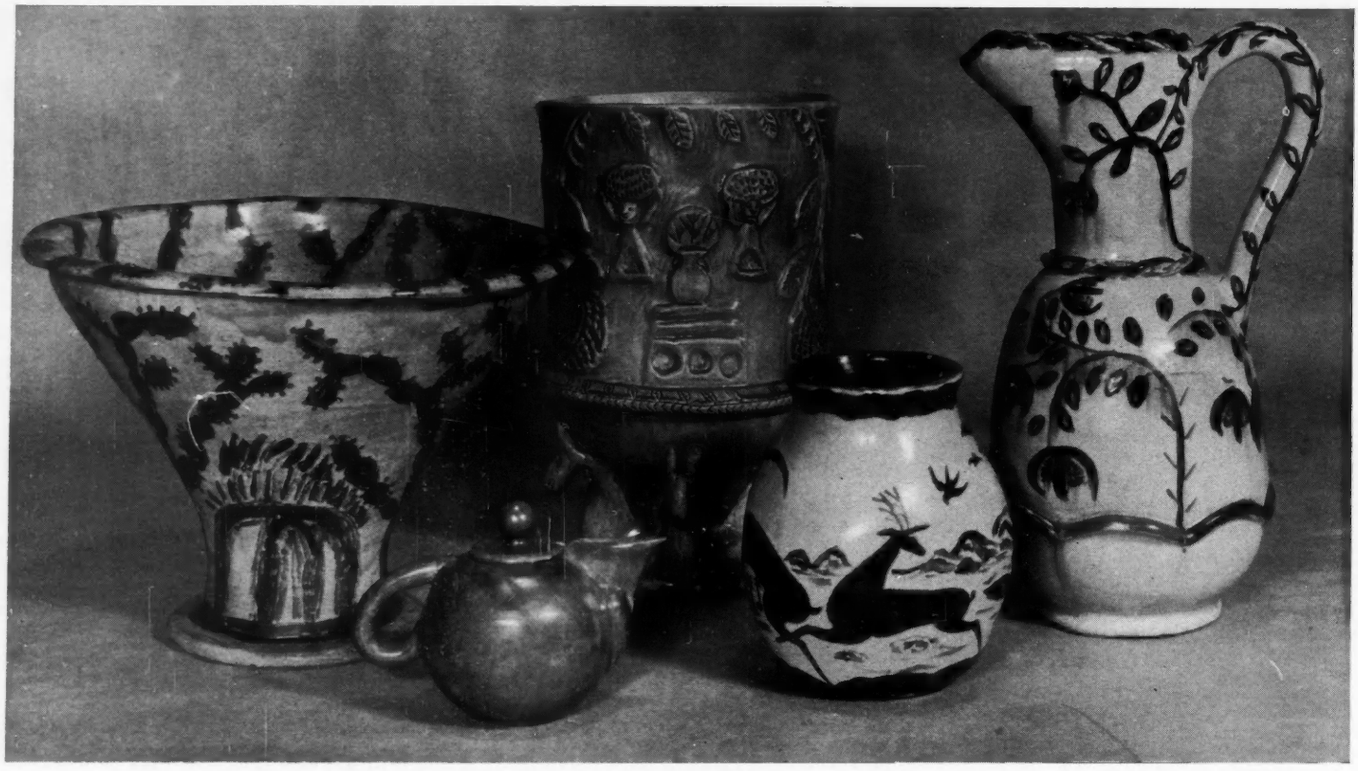
ANNE BRIGMAN

STRUCTURE

The bowls at the left are not only fine in form but are also interesting because the structural units have been converted into decorative elements.

NATIVITY

ANNE BRIGM.



Pottery made at Hull House by three Mexican men. All started from the recreational viewpoint but changed to a craftsman attitude.

W. W. KIRKLAND

CERAMIC DESIGN • ITS BACKGROUND • NEEDS • CREATIVE VISION

By **MYRTLE MERITT FRENCH**
CHICAGO ART INSTITUTE
AND HULL HOUSE

It has been extremely interesting to work simultaneously with several groups of people creating in ceramics from entirely different viewpoints. There has been a Mexican group of the type one is likely to meet in any industrial center and in certain agricultural developments. There have been those working from the recreational point of view, others from the craftsman's interests, and those who have been enthralled by the romance of the power, rhythm and perfection of the machine. In many cases the interests overlap, and some individuals move readily from one type of expression to another directed by the urge dominating them at the moment. In every case the fundamnetal elements are the same. There are the ceramic materials from which to create, there are the tools to be used whether fingers, modelling tools or machinery, and there is the creative urge always dependent upon background, needs and vision.

No matter by which group a piece of ceramic may be made, it is born of some sort of a creative urge and the resultant appearance of that piece is called its design. It is with this urge or vision and this design that we are concerned.

By design one usually means the appearance of the form in its entirety. Ordinarily it is separated into fitness of purpose, method of production, general mass form, detail forms subordinated to the general form but always in harmony with it, enrichment of surface, and color and texture of the glaze in relation to the conception of the mass as a unit. This article will include also that intangible quality which gives any creation its soul. All of the greatest works of art have been created as a result of this quality in the artist at the time he was creating. For convenience it will be called the creative urge or vision. It makes no difference whether the work of art is a pot, a textile, a painting, a building or a piece of sculpture, if it was created as a result of a great vision, it will glow with beauty.

The principles of design can be taught but the ability to add this intangible quality to those principles can not be taught. This creative vision must

be recognized as something of greatest importance and other principles should be sacrificed for it temporarily if necessary. It is nothing about which one should be made self conscious, but its existence should be recognized and respected even though it appears very weak and hesitating.

Because different groups have inherited different backgrounds, have lived according to different patterns of reaction, have created as a result of different urges, and have a different vision of life their designs must be different. That is a point too often forgotten by those whose business it is to make judgments and give council. It should be realized that there are great possibilities for conceptions of beauty within every type of expression. The aim should be to recognize the natural tendencies and direct them into a practical development. In most cases it is neither possible nor desirable to move a person from one natural type of expression to another except as the interest leads the way. There is variety within each group but there are likewise common factors.

Those beginning from the recreational viewpoint usually come in a spirit of adventure. They wish to explore possibilities of the material or test their ability to accomplish a particular thing. As a result the design is hesitative or experimental therefore it is less formulated but sometimes more spontaneous. In many cases it is the first introduction to design so that the results are fearful and at times closely resemble types of form often seen. Whatever it may be, it is evident the student needs experience, and helpful suggestions. But most of all he needs encouragement to view his own attempts with critical respect and to tear down and begin over as many times as is necessary to satisfy himself. Even then the chances are that a lapse of a short time will show such development and fresh judgment that he will consider the first pieces only honest attempts. While he works, more creative ideas come to him, his design becomes less fearful and a glimmer of vision is more apparent to those sympathetic enough to recognize it. Eventually most students begin to create in accordance with their background, reactions and vision. Those not enough interested, give up the project. I once had a student who had a strong desire to make pottery. Her first piece was a six inch bowl built up eleven times before it would stand in a vertical position and even that looked as if it might fold up at the slightest provocation. The only thing that gave her courage to continue was a stubborn determination to conquer this new material, since she had been able to manipulate successfully every other material she had tried. When her second piece was started she asked, "Must I decorate this?" I told her it was a matter of her own choice. Before she had finished the second piece she asked, "Do you think I could decorate this?" The reply was, "*I* think you could if *you* think you could"—to which she answered, "I think I could." She started by painting one very hesitating horizontal line entirely around the piece and one small very primitive looking deer on each of two sides. It was suggested that she needed more pattern so the animals would not stand out as such isolated dark spots, perhaps bushes could be used or other wild life. From that she completed a very good but very primitive piece. To be sure the deer was given a long tail but when asked by one of the students, "What kind of a deer is that?" the reply was, "My *own* kind of a deer." She had gained her

The ware above was made at the Art Institute of Chicago and was designed from the craftsman approach. That at the left was made in the Industrial Department of the same school, and was designed for quantity production. It was produced in molds. Some of the forms were planned and rendered in a design class, others were created directly in the material.

self-respect and her own kind of vision which later produced some of the best things done that year.

Those studying to become professional craftsmen usually have some conception of the material and its possibilities. They are prepared for a more organized plan which may lead to an intellectual as well as emotional approach. As a result their designs tend to become well defined and strong. No matter whether the craftsman chooses to make whimsical sculpture, industrial groups, articles of use, garden sculpture or pieces for religious purposes still the spirit of the more formulated interests of the artist usually dictates the design. In one point the craftsman is likely to be distinctive. He has a great love for the beauty of ceramic materials. Usually he tries to design so as to display those natural beauties which he understands so well. When a good designer creates for quantity production he considers the qualities of the material to be used and keeps his design in harmony with them, but often he is more concerned with the form and a suitable ceramic effect than he is in displaying the exquisiteness of the ceramic materials, while the craftsman with his thorough knowledge of possibilities is in danger of becoming so engrossed with the beauty of materials that the design may be neglected. The greatest beauty is sure to result from the vision which is capable of creating exquisite form in terms of the intrinsic beauty of materials and processes.

Among a group of Mexicans at Hull House I have found an expression entirely different from anything else I ever encountered. I am convinced it can be attributed to their background as a race. Some of them are Indians and proud of it, others are mixtures. None were accustomed to handling clay. With two or three exceptions all had that intangible quality which has been called creative vision, for want of a better name. I have never seen human hands as quick to respond to a material or so sure in their reactions. They work more emotionally with a quiet reverence for their skill—never seeming to question the outcome. The following quotations "Idols Behind Altars," by Anitta Brenner,[1] probably explains much of their inherent ability: "In Aztec religion, place and labor were fundamentals. The man who worked the land and was therefore closest to the sacredness of earth and labor had the most religious guarantees, was the safest. Necessarily he stayed in the same place, as did the potter, who enjoyed similar honors." The prime essential between man and his material was labor, and the important thing in labor was skill, this meant the guarantee of possession, power, and honor was ultimately based on ability."

"There is a story of a mother who lashed her little daughter's hands with a thorned twig because she dropped a bowl. The bowl was unbroken but the lashing was given as a lesson to the clumsiness in her hands." Because the Aztec had little respect for great personal possessions and because the creative urge of the Aztec was one possession the Spanish could not plunder, there are many Mexicans today, who have inherited one of the most valuable qualities of the Aztec—their creative vision.

The Mexican expression takes a different form because their individual backgrounds and needs are different but the creative urge is very evident.

It has been a never ending joy to see what they develop from day to day. One of the first to come to Hull House began by experimenting with form and glaze until he was rather sure of himself, then he wanted to decorate. His first attempts were all geometric. After that he did simple animal and bird forms combined with cactus and snakes. The next experiment was a surprise which caused considerable consternation and tested sorely all the psychology I knew. When I went to the pottery room one day I found several vases decorated by slip painting using characters from the comic strip. Naturally I wanted to stop that experiment immediately. To be dictatorial in the matter would not be convincing to one who thinks; and I felt sure I could not make him understand at once the reason why that sort of thing should not be made. His was a logical move. Had he not seen people turn quickly to that part of the paper and did they not seem interested in it? Sometimes they even laughed. As a natural conclusion vases decorated with the same characters should please people. They did produce laughter but the tragedy was that no one wanted to buy them. And of course he was trying to earn a living by selling his pottery. In every type of work he had shown a fine feeling for pattern and his technique and form were good. How could he understand the inappropriateness of these particular figures when his interpretation was so different from the usual interpretation?

To turn the new experiment into a more desirable direction I interested him in putting animals and birds on sets for children. The public responded more favorably to those things and never again have the comic strips been deemed worthy of similar attention from any Mexican. In a short time he had passed to free, flowing, brush patterns, then on to glaze experiments, and modeling of animals. All the time he was hungry for greater knowledge. He sketched at the Zoo and Field Museum, studied nights at the school of the Art Institute, read books and worked incessantly all day and a good part of the night. The longer he worked the more he adjusted his expression to the needs of the people to whom he would sell. Eventually he secured work with a good artist who handled many materials. After two or three years with him he started a business of his own.

A second man was an entirely different type. He could be surly but seldom displayed that characteristic. He expected the necessities of a new day to come with the day and he had the capacity to so manage his affairs. He had a colossal dignity and self-respect which his wooden leg and untidy clothes had no power

[1] Published by Payson and Clark, Ltd., New York.

Sculpture made at Hull House by the second Mexican described in the article. It is interesting to compare the approach of this man with that of the student whose work is shown below.

F. G. KORTH

A terra cotta figure made in the architectural modeling department of the Art Institute. It was made by a graduate student after a year spent in Europe.

to undermine. He could neither read nor write but his mind was stored with a great richness which had resulted from a good brain, keen observation, a splendid memory, active imagination, and an enthusiasm for life. His religion was an intimate relationship—so much so that he spoke of the Nativity group as "Mary, Jo and the Bubby" (baby). He often used symbols as decoration and created groups based entirely upon folklore. He had beliefs and often used words that even the Mexicans could not understand.

Often he sang songs and recited lingos for the merriment of those with whom he felt at home. Whenever Margaret, one of the older women helpers, passed through the room he sang out cheerily, "Marguerita of Halstead Street."

The pieces made by this Mexican were sure to be creative. One man who traveled extensively about Mexico collecting for an important exhibition said that in all Mexico he found no one with so creative a spirit.

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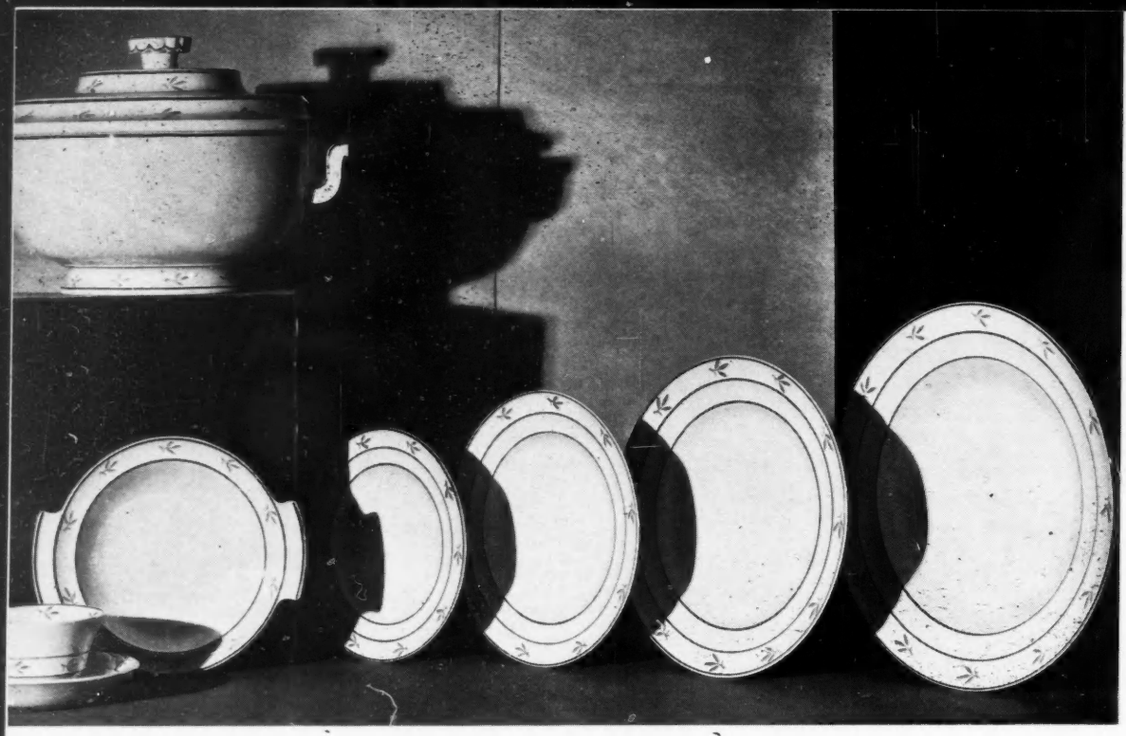

The table service at the left is Swedish. It was designed by Kreblem Kage and manufactured by Gustavbergs Fabriks of Stockholm.

THE CERAMIC ARTIST'S JOB

By ARTHUR E. BAGGS
Ohio State University

Some of our schools are attempting to start a few students on a long road leading to an interesting life work for those who can qualify finally as creative ceramic artists for the industry. What is this goal at which they are aiming? What do we mean by Ceramic Art, anyway? No doubt many associate the term chiefly with china painting. Everyone has a wife, mother, sister or aunt who once "took lessons" and decorated china. It was an interesting development, this widespread vogue for amateur overglaze painting, upon which DESIGN'S predecessor, KERAMIC-STUDIO, was founded and supported for many fruitful years. But Ceramic Art means something much broader and more fundamental than mere surface ornament, important as that may be.

There is a wide variety of useful products of clay, glass and enamel which we classify under the general term "ceramics". In the making of these products highly specialized knowledge is required; knowledge of raw materials and their processing, familiarity with their limitations and possibilities. Both the ceramic engineer and the ceramic artist must know these materials and how to make them behave. But in the study of these fundamentals the engineer and the artist or designer approach the subject from different points of view and with varied objectives. The engineer is concerned with learning how to control his materials and keep them working smoothly through the manufacturing procedure. He does not worry about what to make, but he must know how to make efficiently whatever article he is assigned to produce. The ceramic artist, on the other hand, gives his main consideration to the product itself. How can he combine and process the available materials to develop good-looking, useful articles which will meet specific needs? What shapes will best perform their functions? What colors and textures fit the current trend of public taste? What decoration, if any, does this vase or that plate need to make it appeal to the customer when passing through the store? The ceramic designer is always thinking in terms of finished product; seeing in every experimental body, glaze, or decorative process, possibilities for application to some definite project which he thinks will be attractive and salable. It is the business of the trained ceramic engineer so to control and perfect manufacturing operations that losses will be minimized and profits made. The ceramic artist's job is to keep the flow of ideas for smart, useful and tasteful ceramic merchandise coming along with equal smoothness. No degree of manufacturing efficiency is sufficient in itself to bring continued success to a dull, lifeless, badly designed product.

The ceramic artist should be a technologist as well as a designer so that he may plan intelligently such things as are within the practical limitations of his medium. Body and glaze composition, intricacies of form and ornament, design of moulds, complicated methods of decoration—all may cause production

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GLAZES

By EDGAR LITTLEFIELD
Ohio State University

Among the several materials which a potter has at his disposal, his glazes are second in significance only to the clay of which his wares are formed. Unglazed potteries have been made and are still being made by primitive peoples, but it is interesting to note that no race ever discarded the glazing of pottery once the technique was learned.

The first use of glazes is attributed to the Egyptians who are also credited with the invention of most of the other important ceramic developments. Egyptian glazed articles are known to have been made as early as 4000 B. C. From Egypt the use and development of glazes gradually spread through the civilizations of the known world and reached its "Golden Age" in China during the Sung dynasty. The colors and textures of the Sung glazes, as well as the Sung potter's discretion in their use are unequalled to this day.

It is difficult to overemphasize the importance of glazes to the ceramic artist, from the viewpoints of either utility or beauty. Utilitarian standards demand that pottery be impervious to water and easily cleaned. The requirements of beauty demand that pottery be pleasing to the senses of sight and touch. All of these needs are satisfied by the use of a suitable glaze.

What may or may not constitute a suitable glaze depends primarily upon the function of the article and the porosity and color of the clay body of which the article is made. A glaze which is wholly compatible with a shape designed to display flowers might be eminently unsatisfactory if used on tablewares. In the case of the flower vase the requirements are rather simple, being only that the glaze renders the piece water-tight and has a color and texture likely to harmonize with whatever flowers are displayed. Tableware requirements specify that the glaze be hard enough to withstand the abrasive effect of such implements as the knife and fork and the corrosive effect of repeated immersions in caustic washing solutions. The texture must be smooth enough that a knife or spoon can be drawn over its surface without causing an unpleasant chill to traverse the spine of the diner. The matter of color deserves careful consideration because psychologists tell us that much of the enjoyment of eating is visual. The color of the ware and that of the food should be so arranged that the finished scheme is harmonious and inviting. Thus it is obvious that glazes which are suitable for flower vases and bulb bowls might be entirely inappropriate for use on tablewares. Neither is it difficult to understand why a fine transparent porcelain glaze would not do for a jar formed of a coarse stoneware clay because, in the one case the transparent glaze is used to enhance and feature the white purity and translucence of the porcelain body while in the other case the transparent glaze would only reveal the coarseness of the cruder clay. It follows, also, that the use of crackle glazes on wares designed to retain liquids opposes function unless the body of the piece is itself vitreous enough to be water-tight.

Aside from the primary factors of function and body material as determinants of the fitness of a given glaze for a given article, there are secondary considerations involving the size and form of the piece. Glassy, brilliantly colored glazes are generally more properly used on small pieces. Such a glaze often gives a small article a most satisfying jewel-like elegance. The same glaze used on a large vase might be only gaudy and vulgar and could be replaced to advantage by a glaze less brilliant in both color and texture. A piece agitated in either form or surface decoration is usually most successfully treated with a glaze of dull texture in order that the observer be not so dazzled by highlights that the basic beauty of the piece eludes him. The relationship between a form and the proper glaze treatment for that form is so subtle as to make its analysis difficult. It is a problem often encountered by the ceramic artist and one that is usually solved, not by logic, but by the dictates of the artist's feeling for such things. The question is enshrouded by many intangible factors which make it impossible to arrive at any definite rules of procedure. The potter learns by experience that each shape is deserving of careful discrimination in the selection of its glaze.

To the uninitiated the nature of a glaze is a thing of mystery. Ceramic glazes are coatings of glass resulting from the fusion of the acidic oxide of silicon with the basic oxides of one or many other elements. Glazes and glasses may be the same chemically; the difference in appellation arises only through the difference in the manner of their employment. A glass bottle is one hundred per cent glass; a glazed clay bottle has only a thin coating of glass on its inner and outer surfaces. What differences there are in the chemical make-up of glazes and glasses do not constitute differences in the *kind* of material; they are merely variations necessary to the different methods of manufacture. To illustrate: nearly all glasses are high in their silica content and if cooled slowly after forming, the silica crystalizes, resulting in defective ware. This phenomenon seldom appears in the manufacture of glassware because the product is cooled so rapidly that the crystals do not have time to form. However, in the manufacture of clay articles the ware *must* be cooled slowly to avoid shattering the clay body. Therefore, before a glass can be successfully used as a glaze its composition must be adjusted to prevent the formation of an undesirable crystalline scum. This adjustment is easily made by the addition of the oxide

This magnificent Chinese piece is covered with an oyster white glaze of a waxy texture. It is of the felspathic type.

of aluminium (alumina). The alumina enters into combination with whatever silica may be present and thus arrests the development of silicious crystals. The alumina renders the additional service of stiffening the glaze so that it does not flow from the ware while molten.

Glazes may be classified in three main groups, salt glazes, slip glazes, and compounded glazes.

The salt glazing method was formerly used extensively for many pottery articles. At present it is used chiefly in the manufacture of sewer pipe. The process consists essentially of firing the ware to the maturing temperature and then introducing common salt (sodium chloride) into the hot fire boxes. The salt is volatilized by the intense heat and sodium vapors circulate amongst the ware. The sodium, being basic in nature, reacts with the acidic silica (at high temperatures one of the most powerful acids known) and the alumina in the clay body of the ware, forming a glassy coating. Salt glazing is especially suitable for the treatment of certain types of ceramic sculpture and could be an effective pottery technique in the hands of the discriminating ceramic artist, but it has the fault of being usable only in open fire kilns such as are not at the disposal of most individual potters.

Slip glazes are natural clays having melting points so law as to form glassy coatings within the range of pottery temperatures. They find their greatest application in the stoneware industry where they are used in the glazing of jugs, jars and other articles of household use. The possibilities in the use of slip glazes for art wares are extensive enough to merit more attention than they have received in the past.

Compounded or synthetic glazes comprise by far the greatest portion of glazes in use today. This is natural because they offer the widest range of possibilities in color and texture. In these glazes measured amounts of various ingredients are ground together with water in ball mills or mortars, enabling the ceramist to vary his recipe until he finds the mixture satisfying his needs.

The three pieces below are by Charles Harder. The one in the center is decorated in underglaze colors. The other two in sgraffito.

In a preceding paragraph mention was made of the formation of a glaze by the fusing together of the basic and acid oxides present in the raw materials of the batch. Following is a list of the commoner glaze forming oxides, together with some of the raw materials by which they may be introduced into the glaze batch:

BASIC OXIDES

LEAD OXIDE
- Litharge
- Red Lead
- White Lead

CALCIUM OXIDE
- Marble
- Whiting
- Chalk

SODIUM OXIDE
- Borax
- Soda Ash
- Sodium Nitrate
- Soda Feldspars

POTASSIUM OXIDE
- Potash Feldspars
- Potasium Corbonate
- Potasium Nitrate

BARIUM OXIDE
- Barium Carbonate

MAGNESIUM OXIDE
- Magnesium Carbonate
- Magnesite

ZINC OXIDE
- Zinc Oxide

ACID OXIDES

SILICON OXIDE (SILICA)
- Flint
- Clays
- Feldspars
- Quartz Sand

NEUTRAL OXIDES

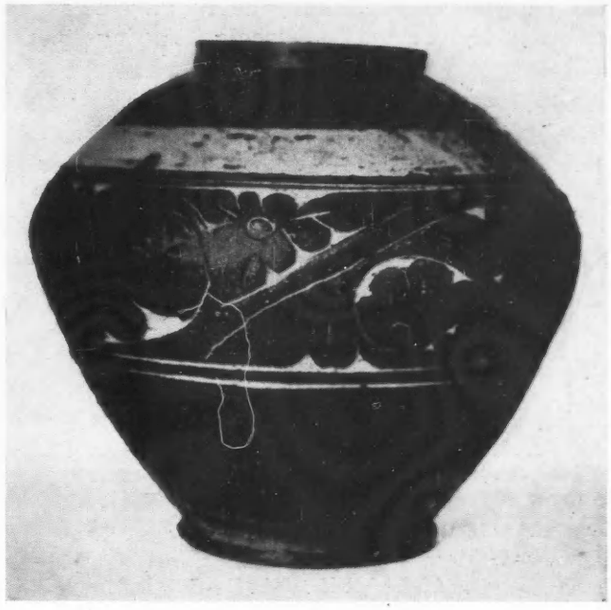
OXIDE OF ALUMINIUM (ALUMINA)
- Clays
- Feldspars

OXIDE OF BORON (BORIC OXIDE)
- Borax
- Boric Acid
- Boric Oxide

Boric oxide is here classed as a neutral because its behavior depends upon the chemical nature of the glaze containing it.

By using a batch composed of definite amounts of these raw materials the ceramist is able to construct a glaze containing the correct proportions of bases, acids and neutrals for his purpose.

Compounded glazes are either fritted glazes or raw glazes. In the preparation of a fritted glaze a portion of the batch is melted into a glass and pulverized before the remaining ingredients are added. Some of the reasons for fritting a glaze are:



This jar is one of the finest Chinese types and is covered with a slip glaze carved back to the body to release the design.

a. To render soluble materials insoluble. The batch must be ground in water, hence any soluble material would dissolve and be lost to the glaze, thus changing the composition.
b. To change poisonous lead compounds to harmless forms.
c. To eliminate blisters and bubbles. During the process of fusion, gasses are driven from some of the raw materials and these may be the cause of bubbles. If these gasses are expelled during the fritting there is less likelihood of blisters forming during the glaze firing.
d. To lower the melting point of the glaze.
e. To produce some effect in the finished glaze possible in no other way.

Raw glazes are those glazes which contain no soluble materials and hence are not in need of fritting.

These glazed animals, so well thought out in form relationships, are the work of William E. Ross.

Compounded glazes may be roughly classified according to the most characteristic ingredients, as follows:

Lead Glazes	Alkaline Glazes
Felspathic Glazes	Boracic Glazes

In addition there are many glazes which are not typical examples of any of the above but which are combinations of two or more types. Listed below are a few simple compounded glazes.

RAW LEAD GLAZE—CONE 04

White Lead	50	China Clay	8
Whiting	9	Flint	15
Potash Feldspar	18		

FRITTED LEAD GLAZE—CONE 04

Glaze Batch		Frit Batch	
Frit	70.15	White Lead	67.4
Whiting	3.50	Whiting	8.7
Potash Feldspar	19.66	China. Clay	5.6
China Clay	4.57	Flint	18.3
Flint	2.12		

ALKALINE GLAZE—CONE 07

Glaze Batch		Frit Batch	
Frit	74.0	Soda Ash	30
Zinc Oxide	4.3	Whiting	6
China Clay	4.2	White Lead	18
Flint	17.5	China Clay	9
		Flint	37

BORACIC GLAZE—CONE 04

Glaze Batch		Frit Batch	
Frit	60	Borax	360
China Clay	25	Whiting	204
Flint	12	Flint	264

FELSPATHIC GLAZE—CONE 9

Feldspar	45	China Clay	12
Whiting	15	Flint	28

The coloring of glazes is accomplished by the batch addition of relatively small amounts of certain metallic oxcides. The colors thus obtainable are dependent upon various conditions of mixtures and firing, of which the most important are:

a. The chemical composition of the glaze.
b. The amount of colorant used.
c. The amount of oxygen present in the kiln atmosphere during the firing.

Some of the coloring oxides are capable of producing several colors, each peculiar to a certain glaze type and kiln atmosphere.

Cobalt oxide usually gives blues, but in glazes containing much of the oxide of magnesium the color may be red violet. If fired under strongly reducing conditions a black may develop in cobalt glazes.

The oxide of copper is used as a source of green, blue and red colors. When fired in an oxidizing kiln atmosphere we may expect copper to produce greens except in glazes whose alkali content is high. In highly alkaline glazes turquoise blues are to be expected. If copper-bearing glazes are subjected to a reducing fire the result may be a red color. The Chinese ox-blood is a red of copper.

Iron oxide is employed in glazes to produce tans, browns and reds under oxidizing conditions and will give celadon greens if properly fired in a reducing kiln.

Glaze colors ranging from browns to purples can be derived from manganese oxide. The purple color is increased by an increase in the alkalinity of the glaze. If reduced, a manganese glaze is usually colorless.

The oxide of nickel is perhaps the least dependable of the colorants and is used chiefly to modify the effect of other coloring agents. In high lead glazes nickel generally produces some shade of green. In alkaline glazes we may expect rather unpleasant gray-greens or greenish tans. Good blue colors are obtainable with nickel if the glaze is high in zinc oxide.

Brilliant greens may be obtained with chromium oxide if the glaze contains no zinc. The presence of zinc causes chromium to produce some shade of tan or brown. If used in a high-lead, low-silica glaze maturing at a very low temperature chromium is the source of brilliant red colors. The presence of a minute amount of chromium in a glaze containing tin and lime will produce pinks.

The oxide of uranium is used for the development of yellows, oranges and reds. Uranium yellows may be obtained in any glaze whose basic oxide content is high. For the development of oranges and reds the lead content should be high, the silica content low, and the glaze should have a low maturing temperature. A reducing fire will change uranium colors to black.

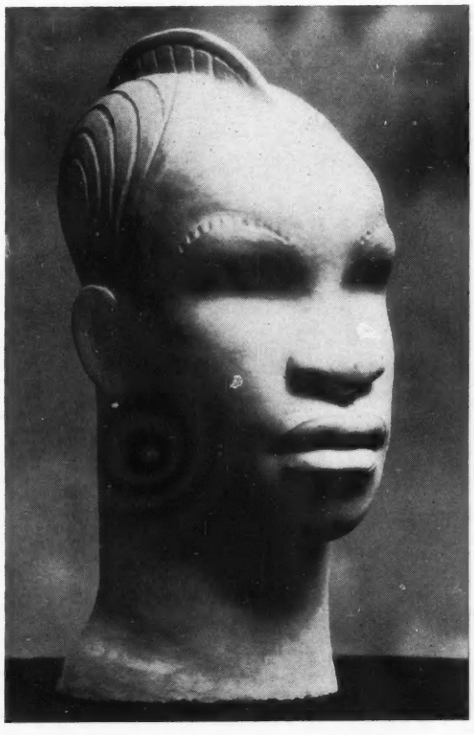
Antimony oxide may be used to produce brilliant yellows in glazes very high in lead and low in lime. The presence of lime tends to bleach the yellow to white.

The oxide of tin is widely used in glazes as an opacifier and if other coloring oxides are absent the color will be white. If other colorants are present, their colors will of course be modified by the presence of the white pigment.

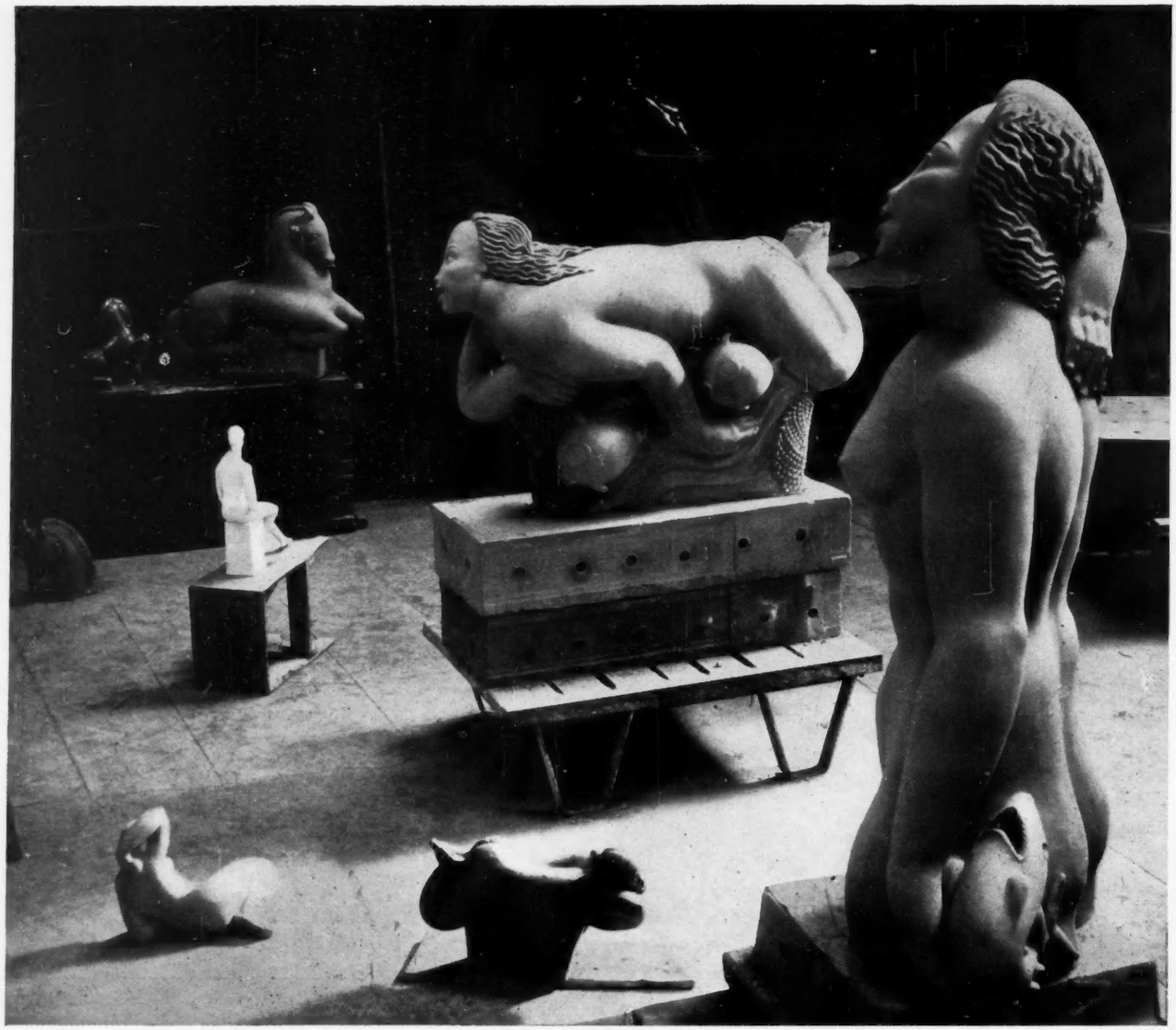
These oxides vary widely in their coloring powers and the quantities required vary accordingly. Cobalt and chromium are seldom used in amounts exceeding two per cent. Copper, antimony, manganese and nickel oxides are usually limited to about four per cent. The oxide of iron is used in quantities sometimes exceeding ten per cent but four or five per cent is more usual. Uranium oxide may constitute as much as fifteen per cent of the glaze batch if used for reds. For yellows and oranges, four per cent and six per cent, respectively, is a fair average. Eight or ten per cent of tin oxide is generally enough to make a good white opaque glaze.

Whether a glaze is matte or bright depends largely upon the amounts of alumina and silica present and the ratio of one to the other. In general terms glazes which are high in alumina and low in silica will have dull surfaces. An increase in the silica content or a decrease in the amount of alumina will change the matte glaze to a bright one. Bright glazes may usually be rendered dull in texture by the addition of the oxide of titanium.

POTTERY AT HAAREN HIGH SCHOOL IN NEW YORK



The head was made by Dominic Facci and the figure by Joseph Colombo at Haaren High School where Mabel A. Brady is the teacher and Florence Newcomb is the chairman.



View in the studio showing directly modeled sculptures in terra cotta and porcelain made by Waylande Gregory.

CERAMIC SCULPTURE

By WAYLANDE GREGORY

The spirit of ceramic sculpture expression is essentially the direct creative urge to make, to speak in the most responsive of all sculptural media, clay. Out of the primitive earth it comes, to yield perfectly to the pressure of the artist's hands. The fire of the creative impulse shapes it. In the fire of the kiln-burning, the creation is made everlasting. Thus is the full beauty of clay and glass formed.

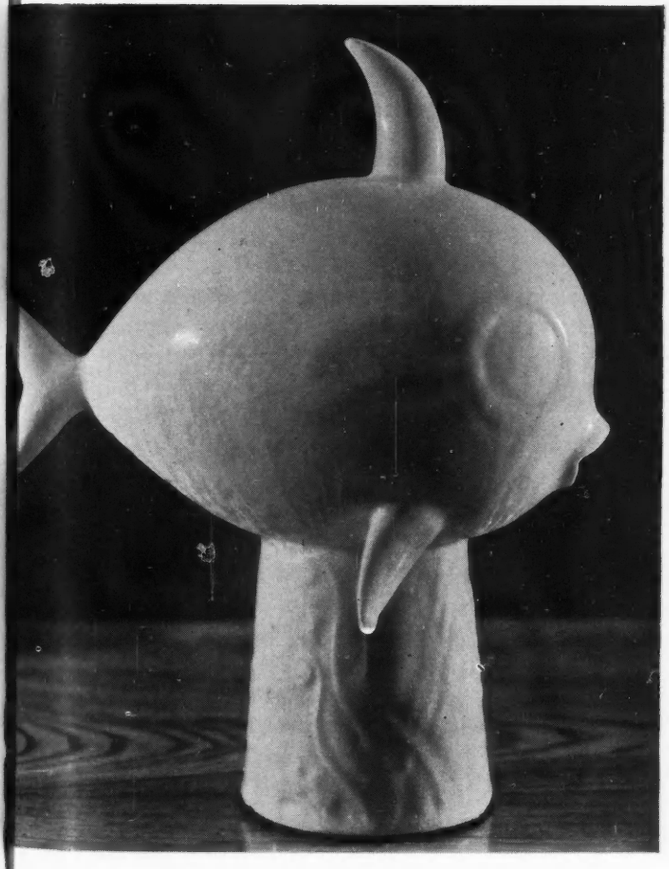
It is not always the beauty of uniform perfection. Chance has a hand. Not only in the smoothness and texture, homogeneity and exactness lies its beauty. Variety, the mark of the fire, the happy accident, play a part in the colors and textures that are found in no other sculptural medium. In passing the hand over a beautiful ceramic sculpture, the sense of touch reveals beauties of form that the eye alone does not completely reveal.

Ceramic is a most exacting medium of sculptural expression. The material is most abundant and ordinary but also most capricious, and much of the fascination of the art is due to the uncertainty attending its pursuit.

Earth, Water, Air, and Fire are all companions in the creation of a ceramic sculpture. Nature's voice seems very near in the clay at one's feet, awaiting the release, the command to speak. The earth seems pregnant with potential sculpture and when commanded by the creative force, the surge is unrelenting until complete crystalization results in sculptured creatures of elemental beauty.

HEAD OF CHILD

This head is in porcelain bisque. Here is shown a restraint and ceramic use of material that is most praiseworthy. Its subtlety of plane, stylization of detail, rhythmic quality and fine organization mark it as a distinguished piece. It was awarded a National Honorable Mention at the Syracuse Museum of Fine Arts in 1934.



POMPOSITY

This globular fish is made of glazed porcelain and is a characteristic example of Mr. Gregory's capacity for simplification and stylization within the limitations of the material.

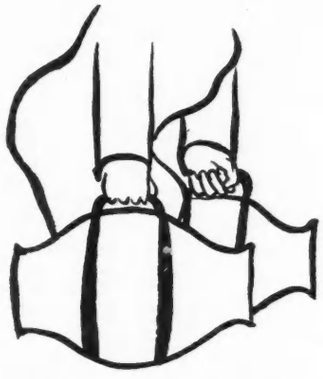
A SPEAKING ACQUAINTANCE WITH POTS

By HAROLD S. NASH
UNIV. OF CINCINNATI
SKETCHES BY REGINALD GROOMS

I have a feeling it isn't the best of taste to speak for others who are capable of speaking for themselves; and to speak about others, implies a lack of some sort on their part or on the part of those who are offered the interpretation. If you have something to tell me you must speak so I can understand you. If you, yourself, can't interest me, how can you expect critics, and blurb writers, and sales promoters, and winners to planes of select culture, to persuade an intimacy you've failed to arouse. Perhaps, in spite of their eliquence and deft eulogies, you really haven't anything to say. Perhaps your gifts are no more than a showy alibi to ease my limited understanding. It may be, of course, that you are beyond my attainments, and that I shall have to grow a little wiser, a bit more sensitive, to comprehend you. Maybe I shall have to become more familiar with the idioms of your language. Whatever the situation, there is the same conclusion: until we can talk, genuinely and with mutual respect, we shall continue to pass each other with only a nod. I can't accept you any longer because of what you may mean to others. Suppose you do have access to the homes of the socially elect; what if you are lionized by intelligentsia; what if you have college degrees and complimentary notices, if you are costumed in elegance, and if you are facile with clever impertinences? Actually, you may have all these and mean less to me than the provocative response of a disturbed orange. I say this frankly to every pot I meet. It's inevitable that I may do some pots injustice, and I regret that. But at least I can, and do, honor those I recognize, with a genuine companionship as unassuming as that in any human friendship. How disheartening to be only a whatnot thing on a mantel.

Now that I wish to write of pots that live, and speak, and entertain, maybe I've handicapped myself with the philosophy. Having recognized so definitely in the pot its own responsibility and privilege to present its own case, and having suggested a prevalent and comfortable confusion of artistic effect and living expression, how can I turn critic and interpreter? I think I don't need to. I should no more want to pick your friends for you than I should permit you to choose mine for me. But I should like to write a little about a point of view, that can be expressed in words only awkwardly at best, that can be easily misinterpreted, and that lends itself dangerously to ridicule. It centers about this matter of creative expression. One hears so much about it, about creative expression. It's a sincere phrase to describe a happy rediscovery, but like many happy phrases the happiness seems to carry a suggestion of completeness, of accomplishment ended, and rest. The right to create is an opportunity, not a davenport. There's a distinction between an uncritical acceptance of the right of every person to creative expression, and an uncritical acceptance of the expression everyone creates. I think we could be more thoughtful, less tolerant, of created expression. All of it doesn't have spiritual integrity, and only a little of it possesses spiritual greatness. I think we require more conviction in our liberality, and more religious earnestness in our conviction. Art isn't an appurtenance to living: it's an integral part of it.

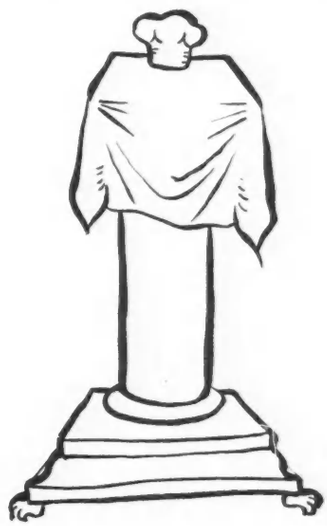
Well, if we believe art, to include the art of the potter, expresses anything of small or greater importance, we've admitted to a belief in a speaking acquaintance with pots. Clay pots do speak, in their own language. We shall never know them truly, nor be able to judge them fairly, nor have the satisfaction of living with



them wholly, until we can speak with them unaffectedly in their own tongue. What do they say? I think no more than the artist who creates them feels and understands and requires of living. I'm afraid I'm not very sympathetic to the unearned increment of accidental charm. Isn't it true that no creative material is so sensitive to conscious expression as clay, and that no other is fashioned so easily into deceptive artistic approximations with small souls? How else could there be all this unchallenged surge of "Art Pottery"? As though any articulate pot in a literate age requires a

title. I cannot believe any self-respecting pot would accept one.

I'm so ambitious for pots, to be created, and judged, and respected, for something more than superficial attraction, I question another phrase that unwittingly lends sanction to attitudes and beliefs that are untrue. It is "Arts and Crafts". Literally the expression is sound. It's the ease with which it is misinterpreted that does the harm. The popular understanding of the phrase is "Crafts are Art"; and besides, there is still the outmoded implication in the words that art is necessarily a product of the hands. The struggle between hands and machines is over. They are both tools, and neither one ever contributed more than a directed facility. Fundamentally, neither one ever created anything. Let us confess that there is no more accomplishment involved in making a passing pretty vessel of the "Art Pottery" type than there is in creating a pan of biscuits or a loaf of bread. There is a better craftsmanship, more thoughtful design, infinitely more truth, much more pertinent expression, certainly less pretense, in a machine-made coffee tin or a stoneware sewerpipe than there is in an "Art" vase with a hyphenated Greek earthenware-Ming porcelain shape glazed approximately Persian or Sung for no good reason. Ten years from now one embalmed



biscuit will better defend our present art awareness than a thousand of these masqueraders.

I shouldn't want it thought that I do not find fine pottery, too, thoughtfully designed, and refreshing without benefit of accidental effects, or hisoric idolatry, or tinted sweetness, or sleight of hand. These are the genuine pots with a purpose in living (call it mechanical function if you like), and with a joyous appreciation of some of the qualities that make life more than an existence (this is the spirituality of the pot). Some express more than others, and some more refreshingly, but certainly not one of them could suppress a smile over that quaint expression of "Art for art's sake." These are the pots with whom one speaks.

Think of pots as personalities, or think of them as embodiments of sensuous qualities of living, and you can't help recognizing the sham of the arty and artistic. Chuckle over the breathless bulk and sombre dignity of a Boston bean pot. It's not great, but it is sincere. Catch your breath at the clear, lifting fragrance of a Ming blue and white jar designed for use. It has the spiritual freshness of a bright spring morning. Acknowledge the voluptuous lovliness of a full-bodied Austrian container as you would that of a drenched white sail bellied out in the wind. Respect the modest charm of the homely pots that say "No

sir", and "Yes sir". Novels are tame, and plays are dull when you become really acquainted with pots.

With this point of view in mind I wish we might talk over some of the intimate, behind-the-scenes facts about pots in relation to some of the character they achieve. I'm afraid the story is too long for an article such as this. We should have to discover in the many rock particles that make our clays, the fundamentals of the clay language. Not so definite as that is the anotomy of the clay figure.

Clay has its own fascinating story of evolution from earthenware through stoneware to porcelain. There is a vivid history of clay costume with its psychology, and of cosmetics and other aids to beauty. It would take too long. I should like to put down (with no possible claim to originality) the bare elements that enter into the philosophy of design suggested. We have tried to say that pots are personalities whose charm depends much less on idle prettiness than it does on an interesting character expressive of its use; that what they say be something in a language no other material can express so well. In the second place what they say must be pertinent to their use and understandable to those who are to use them. A tea set designed for a disappearing generation that wore ankle length skirts, and sat demurely, both feet on the floor, hands in their laps, to exchange pretty confidences, might very well be of frail, unnaturally shaped china daintily touched with sentimental forgetmenots. A modern set must be a bolder thing, less self-conscious in form, more daring in color, and with enough of the unusual about it to hold its own in a sophisticated atmosphere. The third element might once have aroused disagreement. I doubt it will any more. Not only must pottery express something pertinent, in a refreshing way, to its use and surroundings within the honest limitations of its materials: it must do all this in a spirit and feeling honestly loyal to its method of manufacture. Art is expression, whether it is born in a factory or a studio. It is a redundancy to mark a pot wheel thrown, or handpainted, or jiggered, or cast. Any pot worthy of the name will tell you that itself. After all a studio is just a small factory, and there is only one set of principles. The important thing is the pot, and its importance is just as great as its expression.

LEE SIMONSON TO LECTURE AT MILLS COLLEGE

Lee Simonson, national authority on scenic design, is to lecture in the Mills College Summer Session of Drama this season during the week of July 15. Subjects for his lectures include **Past Performances,** illustrated, a history of the development of stage scenery; **Alternatives,** illustrated, based on the designs shown in the Exhibition of Theatre Art at the Museum of Modern Art; **Plan of Action,** the relation of stage settings to direction; **Technique of Production,** the influence of the principal innovators on the modern theatre, and **The Theatre and the Community,** how to make a national theatre. Mr. Simonson will also conduct two afternoon conferences for students and teachers, discussing problems and answering questions.

Mr. Simonson, who began his career as a painter and an art critic, has roused international interest in his scenic design for such productions as **Liliom, Power of Darkness, Back to Methuselah, Fate Morgana, Goat Song,** and **Marco Millions.** Since 1919, he has been a director of the Theatre Guild, Inc., the Garrich Theatre and Guild Theatre, New York. He has lectured widely on the theatre; has acted as editor of **Creative Art,** and is the author of numerous articles and treatises, among them, **Minor Prohpecies** (1927). At present he is working on Shaw's new play **The Simpleton of the Unexpected Isles,** a forthcoming Theatre Guild production.

DIPYLON URN

An early Greek fabrication found outside the gates of Athens. It takes its name from the necropolis where it was buried, and is one of the finest examples of the Geometric Period. Shown here by courtesy of the Metropolitan Museum of Art.

AN INEXPENSIVE KILN FOR CAMPS AND SCHOOLS

By E. H. STRONG

It is necessary that all ceramic ware be fired to make it permanent and serviceable, and if students are to have the proper appreciation of the pottery craft, they must carry the ceramic processes to completion, from plastic clay to the hard, serviceable, finished product. Teachers of pottery who have realized the educational value of complete ceramic procedure have attempted to fire ware in anything from cook stove ovens to heating plant boilers. They have become discouraged because they assumed that the difficulties involved in firing ware are insurmountable. Their failure was due primarily to a lack of information about the ceramic firing process.

This article is intended to reassure those teachers who have had difficulties in firing ceramic ware and to suggest a course of procedure which has proved successful and well within the means of most schools and camp organizations.

Primitive peoples, including the aboriginal American Indians made and used clay vessels from earliest times. Their earliest products were sun-dried and used only to contain dry materials. However, they soon discovered, probably by accident, that clay became hard and dense when subjected to fire.

The primitive process was to build a low fire on the ground, placing the green ware around the fire to warm slowly. As the fire died down the coals were spread out and the pots placed in the center. They were completely covered with bark, wheat straw, or dried manure which burned slowly and with an intense heat. More fuel was added until the ware was hard enough. The whole heap was then covered with earth and left to cool slowly. This firing process is still used by Indians in the Southwest.

Ceramic ware, to be fired successfully, must be handled according to certain fundamental firing principles.

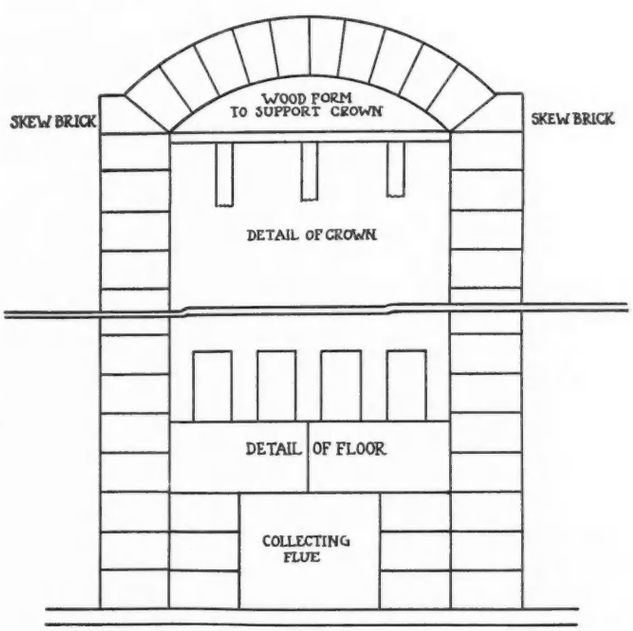
1. The ware must be heated slowly to dull red heat to allow the water contained in the clay to be driven off. If the ware is heated too rapidly, steam forms within the clay and the expansion is apt to crack the ware.

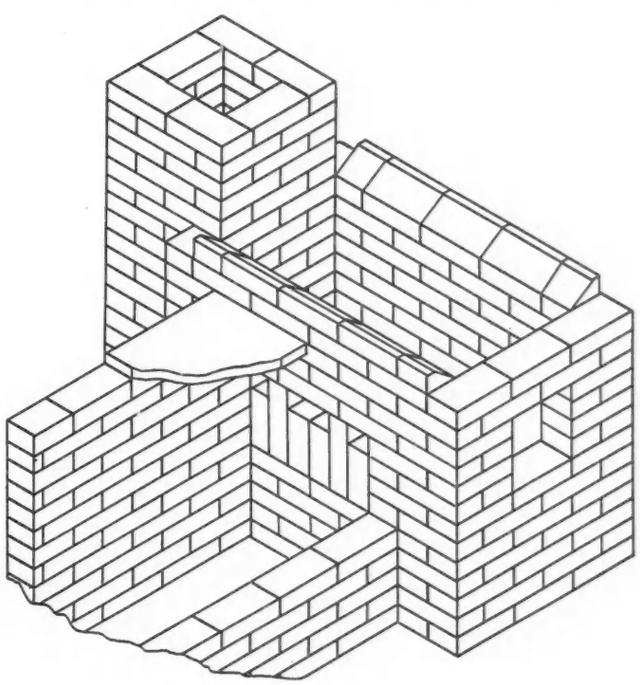
2. The temperature must go to 850° Centigrade, or higher, depending on the kind of clay used. A clear red color within the chamber indicates approximately 800°, and cherry red indicates 900°.

3. The ware must be cooled slowly without exposing it to the cold air.

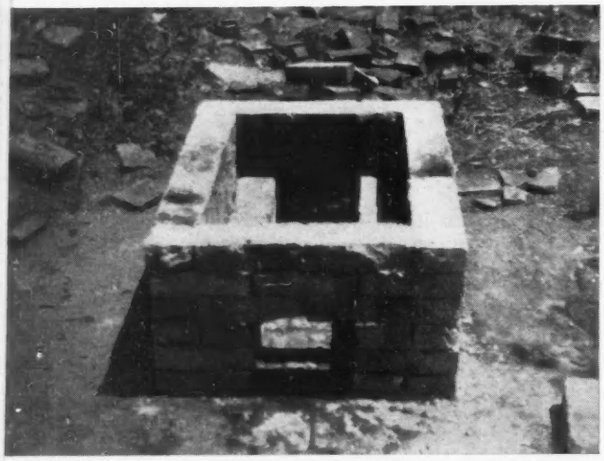
In school and camp pottery work it is usually impossible to have an expensive indoor kiln and while there may be facilities nearby where the ware may be fired, the value of the work lies in having the students who prepare and handle the clay, participate in the firing operation.

A simple outdoor kiln may be built with a fire brick chamber to contain the ware constructed above a fire box hollowed out in the ground. A short chimney at the top of the chamber draws the burning gases up around the ware. Pottery can be fired with more or less certainty of success by either the primitive





The illustrations on this and the succeeding page show the building of the kiln in progressive stages. They appear in order from one to seven as referred to in the text.



method or in a hurriedly constructed kiln, but to insure the best results, the kiln must be built carefully according to proven principles of kiln construction.

Many outdoor kilns are inefficient because of uneven heat distribution throughout the chamber, and because of excessive fuel consumption due to the long firing period necessary to mature the ware.

The supply and ecenomy of fuel must be considered in planning a kiln. In most localities it is impossible to have a gas supply out doors, and the equipment necessary to burn fuel oil or kerosene is too expensive. Wood is, in most localities the most practical fuel. However, the economy of wood as a fuel is entirely dependent on the efficiency of the kiln.

The kiin described here is practical, economical, and well suited to fire red burning field clays which may be found in abundance in nearly all localities. Abundant supplies may be found in creek beds and along river banks.

The work of building the kiln can be done by boys of Junior and Senior high school age, working under careful supervision. The tools needed are:

Trowels, brick hammer, steel square, level, mixing box, mixing board to carry the mortar to the work.

The materials needed are: 750 fire brick (used) at $20.00 per thousand, 500 red brick (used) at $7.00 per thousand, 200 lbs. fire clay, 200 lbs. grog (crushed fire brick), 50 No. 2 side wedge arch brick at $50.00 per thousand, 15 skew brick at $50.00 per thousand.

All of the fire brick and common brick used in construction were taken from a dismantled boiler. The No. 2 side-wedge arch brick and skew brick used in constructing the crown were obtained from a building supply company. The fire clay and grog used to prepare the mortar came from the same source.

The used brick must be cleaned of all dry mortar and soaked in a pail of water for a few minutes before using. Fire clay and grog in equal proportions are mixed with water to a soft consistency for the mortar.

The kiln is of the down draft type in which the burning gases enter the ware compartment through vents in the chamber wall and are drawn down around the ware to a collecting flue beneath the chamber floor. The coilecting flue runs the full length of the chamber to the foot of a ten foot stack. However, the height of the stack depends on the location of the kiln. If it is built away from buildings and trees the stack may be lower.

The first course of brick must be laid carefully on a level concrete foundation making sure that the top of this first row of brick is level and the corners square. An error in the first course is multiplied in succeeding courses. Each succeeding row of bricks must be checked carefully with square and level.

The size of the openings from the fire box to the chamber and the size of the kiln door were planned to eliminate the use of arch brick to support the weight of the bricks above. However, the door must be large enough to allow freedom in placing the ware.

The fire brick chamber was built with an inside width dimension of 18″ to allow the placing of two 9″ bricks on edge, end to end and bridged across the 9″ collecting flue. (See Figure No. 1.) Six rows of brick were placed in this fashion 2½″ apart to form the first course of the grilled floor. (See Figure No. 2 and No. 3.) The second course of the floor was laid at right angles to the first in four rows the length of the chamber and again spaced 2½″ apart. (See Figure No. 4.) This formed a checker floor allowing the gases to enter the collecting flue from any point in the chamber.

The skew brick are laid along the top of the chamber wall forming a solid face to receive the thrust of the crown. A wooden form must be made to support the weight of the arch brick in the crown until the mortar sets.

The fire box is built at one side with masonry walls laid up 4" higher than the vents into the chamber. The top of the firebox is bridged over with fire clay slabs. (See Figures No. 5 and 6.)

A red brick wall is laid up two inches from the chamber wall and the insulating space between is filled with cinders. A layer of cinders may be spread over the crown to insulate the top of the kiln. (See Figure No. 7.)

Some provision must be made to close the front of the firebox after wood has been thrown on the fire. A sheet of heavy gauge sheet iron may be used to close the opening. The draft opening under the fire box should be adjustable with a maximum opening, having the same area as the area of the opening in the stack. Grates are laid in the firebox with an ash pit under them and slanted toward the chamber wall to carry the coals to the back of the box.

During an eight week camp season the kiln was fired ten times under varying conditions and it performed with consistent efficiency and economy. The fuel used was mill scrap hardwood and the fuel consumption varied from one-half to two-thirds of a cord per firing.

Heat distribution throughout the chamber was very uniform. Cone pats holding Cones 010, 08, 06 and 04 were placed in the four corners, two were placed in upper corners, front and back, and one was placed in the center in the direct path of the flame. All cones were down with the exception of cone 04, in the upper back corner.

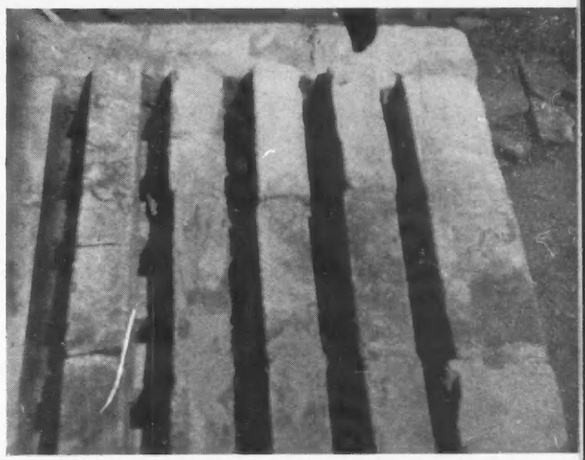
As in all open type kilns the burning gases come in direct contact with the ware. The smoke from the wood causes some discoloration in the fired ware. This may be avoided by placing the ware in butter crocks, stacking one upon another, and covering the top crock of each stack with a tile. These crocks serve as saggers in firing glazed pieces.

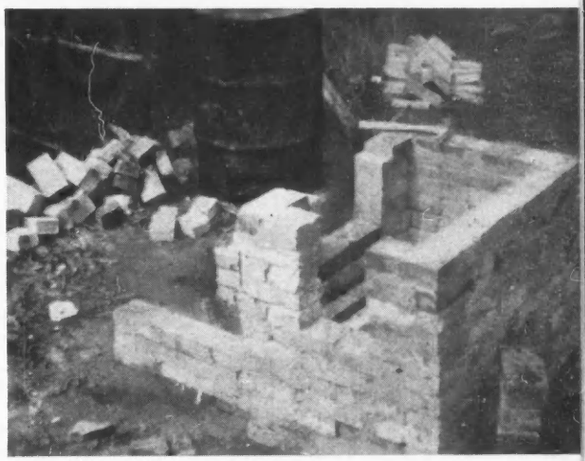
In firing the kiln the fireman must carefuly observe the condition within a kiln, to determine when to add more fuel. Fuel should be added often enough to keep a continuous swirl of flames inside the chamber. If the fuel is added too rapidly there will be an excessive amount of smoking which indicates that combustion is incomplete. Overloading the firebox reduces the efficiency of the kiln, wastes fuel, and will at certain points in the early stages of firing raise the temperature too rapidly for safety of the ware.

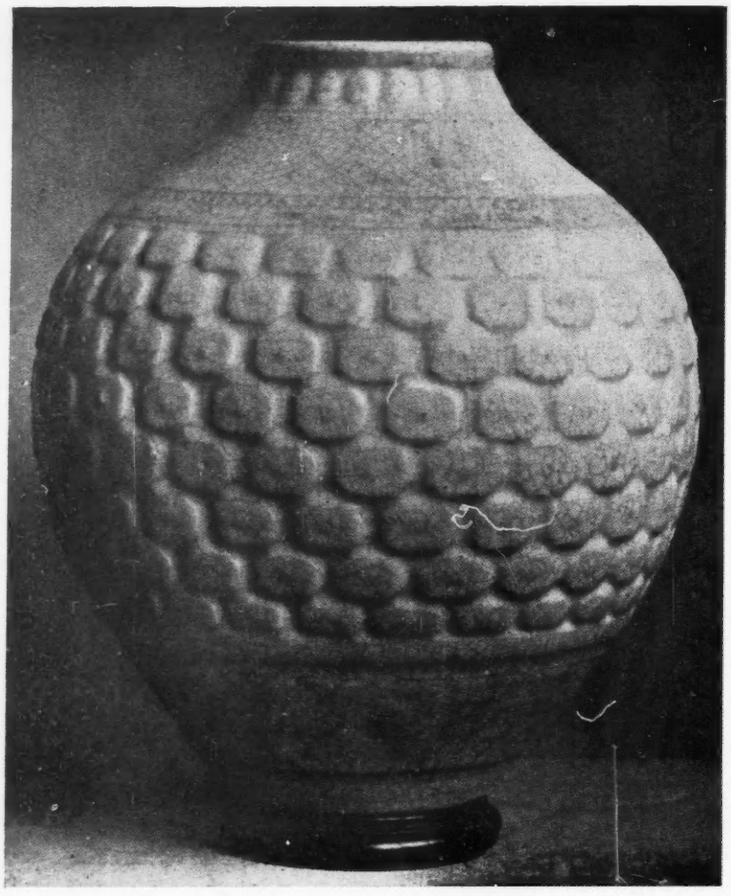
The coals in the firebox should be pushed backtowards the wall of the chamber and the fuel placed at the front of the firebox. At the end of the firing, which should take from seven to eight hours, the fire door, draft opening, and stack are closed tightly and the kiln is allowed to cool completely before removing the ware. Seger cones which soften at a certain temperature are the most satisfactory method of determining the finishing point of the firing. However, if they cannot be obtained, the following colors observed inside the chamber can be used to roughly estimate the temperature:

Color	Degrees Centigrade	Color	Degrees Centigrade
Faint glow	525	Cherry red	900
Clear red	700	Bright cherry red	1000

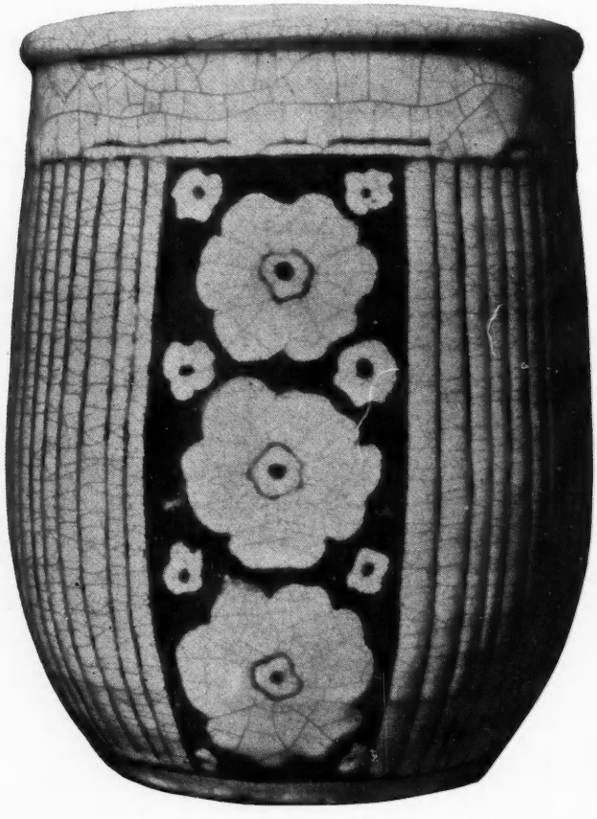
By studying the accompanying photographs and drawings the reader should be able to construct a similar kiln which will perform successfully and give valuable experience to students who are interested in carrying out the complete ceramic process.





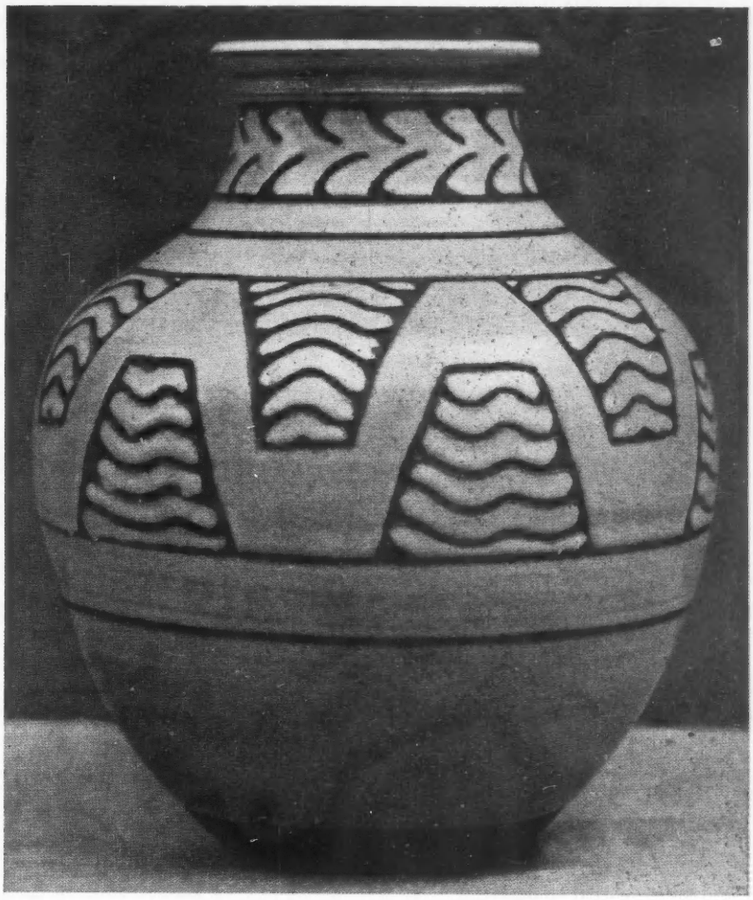


SOME
FRENCH



The vase above is by Emile Decoeur. It is made of porcelain over which there is a magnificent white glaze, slightly opalescent and of an unctuous texture. Decoeur is noted for the quality of his glazes which have never been equalled except by the Chinese masters of the Sung Dynasty. To the right is an urn by Pierre Lenoble, the son of Emile Lenoble. It is stoneware with white enamel crackled in blue. The panel is deep blue with the rosettes in white.

E MODERN H POTTERY



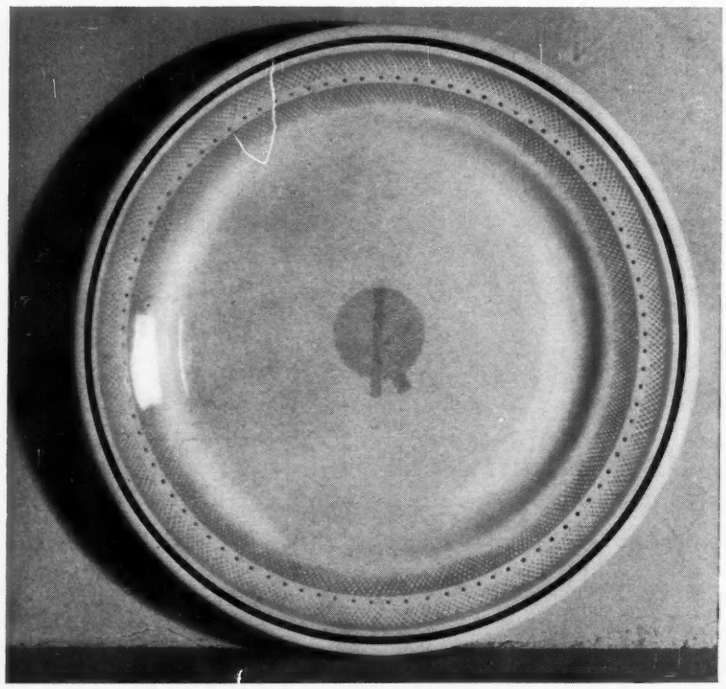
Both pieces on this page were made by Emile Lenoble, who in France is considered their greatest potter. His ware is characterized by simplicity and ruggedness of form and a bold ceramic use of decoration that achieves the dignity of ornament. Most of the decoration is made by incising through a colored engobe to the original body color, leaving the ornament in relief. This is called sgraffito. The piece above has a yellow engobe, that the left one of black.

There is a feeling of intimacy about this set, designed by Ilonka Karasz for the Buffalo Pottery Company. It is capable of double duty as it may be used either for chocolate or tea. For the latter use there are provided two heating units, one for tea and the other for water. The design, while delicate, is in no way trivial. The shapes are especially pleasing and logical. The colors are dark blue, yellow, terra cotta pink, and veridian.

WYATT DAVIS

SOME NEW DESIGNS IN THE INDUSTRY

The service plate at the right was designed by Ilonka Karasz for the Pennsylvania Railroad and produced by the Buffalo Pottery Company. The border as well as the medallion which is a monogram, are reminiscent of the crosshatchings on primitive pottery, but the restraint marks it as modern. After an orgy of wild flowers and sentimentalized moldering castles, this simple pattern comes as a refreshing innovation to the industry.



WYATT DAVIS

A PRIMER OF CERAMIC PROCESSES

Continued from Page 5

If the student's work in ceramic art goes not further than the completion of a piece of pottery, then much of its cultural value is lost. The subject abounds in opportunities for interesting discussions and research, which could take on through the pages of history, science, and literature from the Stone Age to a Century of Progress. The teacher of pottery ought to be able to provide interesting and non-technical answers to such questions as:

1. What is clay? How was it formed? What are its uses?
2. How does fire harden clay, and how hot must it be?
3. What people first discovered how to make glaze? Glass?
4. How is glassware made today? Pottery?
5. Where was the potter's kiln first used? How was pottery hardened before the invention of kilns? How can you build a simple kiln?
6. What is the history and evolution of the potter's wheel?
7. What kinds of pottery were made in ancient Egypt, Babylonia, Greece, Persia and China?
8. What does their pottery tell us of their religions, social customs, arts and sciences?
9. How many Biblical and literary references to the craft do you know?

A brief study of the History of Ceramic Art will go far to clarify the problem of design in that it will reveal the fact that each of the great periods in history has produced an individual interpretation of the same basic materials, each style finding its inspiration in the religious, social and economic demands of its time. Wherever the worker's creative faculties have failed to keep pace with the needs of his changing world he has found it necessary to seek a refuge in dexterous execution and senseless imitation. The rapid advances of the past 200 years have bequeathed us many examples of such artistic stagnation.

When the potter of today takes stock of his environment, he finds that science has presented him with a host of new machines, processes, and tools. The problem of an artistic solution seems to have become involved. While he feverishly gropes for such a solution the machine attempts to make its products look handmade, and the craftsman attempts to invest his work with the character of the machine. In both cases history has a ready answer—a sincere, honest, interpretation of the material in terms of function, tools and processes.

Although the machine is able to provide us with the necessities of life, the craftsman will always be with us, for so long as men have hands they will shape materials for the sheer joy of creating. This fact becomes more significant when viewed in the light of changing economic conditions which will shortly provide thousands of people with more time for cultural pursuits. If teachers are to take full advantage of the opportunity presented by this situation, then teaching emphasis must be placed upon creative effort, sincerity of design, and obedience to the spirit of the material, and not upon technical skill and imitation of adult commercial products. Real appreciation cannot be developed where manipulation is the primary aim.

Suggested references:

"The Potter's Craft," C. F. Binns.
"The Story of the Potter," C. F. Binns.
"Pottery," G. Cox.
"Handicraft Pottery," C. and D. Wren.
"Aboriginal Pottery of Eastern United States," W. H. Holmes.
"Pennsylvania Dutch Slip Ware," E. A. Barber.
"Ceramic Art," J. S. Young.
Files of National Geographic Magazine.
"Procession of the Gods," G. G. Atkins.

ANNUAL ROBINEAU EXHIBIT

The 4th Robineau Memorial Ceramic Exhibition, a national exhibition held annually in memory of Adelaide Alsop Robineau at the Syracuse Museum of Fine Arts, has been postponed from April, 1935 (as previously announced) until October, 1935—the exhibition to run from mid-October to mid-November.

This change in dates we believe will be an advantageous one; for the College Art Association has agreed to circuit a selected representative group of pieces from our exhibition during the season of 1935-1936—a plan that would prove impossible during the summer months.

The jury will consist of Mr. Richard F. Bach of the Metropolitan Museum of Art, chairman; Mr. Guy Cowan of the Onondaga Pottery Co., Syracuse; Mr. Carl Walters of Woodstock; and a representative of the College Art Association (to be announced).

These ceramic exhibitions have been brilliant affairs and have aroused widespread interest, as evidenced by articles in art magazines and newspapers throughout the United States. Our first exhibition in 1932 open only to the potters of New York State, was so successful that our second one was made national in scope, with eleven states responding, and it is significant that in the year 1934 entries poured in from twenty-one states, and that during the exhibition visitors appeared from many of these states.

Nearly 200 potters submitted their work, out of which the jury selected 109 potters to be represented in the final showing. Two prizes have been awarded each year, besides several honorable mentions, and in spite of the depression many pieces were sold.

We believe that with the cooperation of American potters, much can be accomplished by means of these annual exhibitions in Syracuse to further the cause of ceramics in this country.

CERAMIC DESIGN•CREATIVE VISION

Continued from Page 15

His things were often groups telling in great detail of religious activities and the activities of Mexico and the United States. They symbolize such things as Irrigating in Mexico, St. Miguel and the Fiesta of the Potters, Ploughing, the Flight Into Egypt, The Mexican Ice Cream Man, The Potter and His Wife Peddling Their Wares, The Milkman, and countless others.

One day when I opened the damp box I received a shock. There arranged in orderly rows were nine heads, nine hats, nine bodies, eight musical instruments, eighteen legs and eighteen arms. I said to the artist, "You had a battle." Without a smile he said, "No, la banda." The next day an eight piece orchestra with conductor materialized as a very attractive group.

At first it bothered me considerable because the Mexicans modelled their people and animals in parts and then stuck them together. I tried to interest them in the idea of working from a mass but my efforts always ended in such a dejected looking class that I finally decided to wait with an open mind to see what might develop. Since then I have come to the conclusion that they are right. After all one of the characteristics of clay is the ability of one piece to stick to another and soft clay will harden to support weight. The pieces made by this method are more fragile but many discriminating people consider them more joyous, creative, and spontaneous and so prefer them even though they get broken and have to be mended. The pieces were made to give a message, the figures were used only as symbols to tell the message and not as accurate records of size, shape and form. For fear I had been led astray by my tolerance I have asked several well trained sculptors whether they considered the expression a legitimate one. All have felt it is. It is a different expression because it is a new situation but it is very sincere. I have wondered whether the men did not respond more quickly to ceramic materails because none of them could understand or speak English readily. It seems likely they did since art is a universal language and they had been deprived of an adequate use of words to tell what they knew and felt.

There is one other distinct expression which I wish to discuss. It is that type created by the group interested in designing for mass production. People enter this field because they believe it has the greatest needs and the greatest opportunities. Some believe that well designed articles produced in mass will do more than any other one thing to bring beauty within reach of every home. They design from the point of view of logical machine possibilities and practical duplication. They have a tolerant point of view and know that great changes come slowly. A few within this group feel the romance of the machine with its great power, its accuracy and its swiftness. Their forms are usually sure, strong, swift moving and smooth with limited or no decoration. Their aim is perfection of technique, though their inexperience seldom permits them to attain the goal. They approach their design from one of two points of view. At times they prefer to manipulate the form in such a way that the interest is in the movement of the surface as it incloses an area and makes strong, interesting shapes and shadows where one definite form approaches or cuts another. For these forms, glazes are chosen which display the full strength of the form, and whatever decoration may be added, it is so planned that it supplements the form and makes use of the machine in its natural movements. At other times they design simple, carefully thought out forms suitable for machine production but calculated to display materials exquisite in themselves.

Beauty in machine production was first introduced to me forcibly while visiting a factory where spark plugs were manufactured. There I got as great a thrill as I ever experienced at the loveliest exhibition of primitive pottery, ceramics of the Near East, the best of the Oriental or the finest of the contemporary expression. It was a different kind of beauty to be sure but it was a beauty akin to the beauty of the law and order which govern the universe. Perhaps out of these spiritual qualities of the machine will spring the next powerful movement in ceramic design and doubtless its expression will be directed to meet the need of contemporary living and will be interpreted according to the background and creative vision of ceramic artists.

THE CERAMIC ARTIST'S JOB

Continued from page 16

troubles. Knowledge of how to avoid such difficulties is as much a part of ceramic art as the ability to plan a pleasing decoration for a plate.

A ceramic artist, then, is one who is able to visualize finished, attractive salable ceramic products; who has the necessary technical and artistic knowledge to carry his vision from raw materials into concrete form. His conception includes not only suerficial ornament but the quality of body and glaze to meet specific uses; the basic form which will most simply and attractively fulfill its purpose and at the same time be capable of easy production by practical methods; surface enrichment by color, texture, or pattern-which will truly contribute to the beauty of the whole. To succeed industrially he should be an alert student of the trends of taste in his own and allied fields, but he should have standards of honesty and sincerity which will hold him back from the pursuit of cheap trashiness in the effort to "give the public what it wants." The public is probably ready to welcome better, simpler design than many manufacturers are offering. Automobiles, refrigerators and washing machines are proving that functional efficiency, simplicity of line and form and restrain in ornament are potent sales factors. Ceramic product designers who will put this same sort of straight-forward, common sense sincerity into their work should find a receptive market. The industry can use such artists.

CONTEMPORARY FRENCH AND SWEDISH DECORATIVE ARTS

By RICHARD F. BACH

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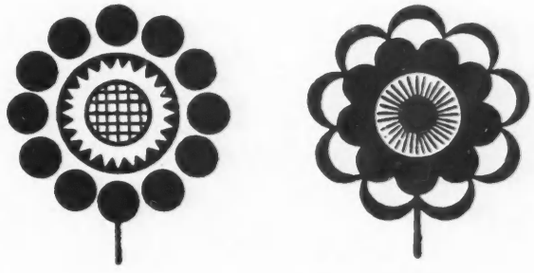
Several examples of contemporary European decorative arts have recently been purchased through the Edward C. Moore, Jr., Gift Fund. Included among these new accessions are three handsome pieces of silverware designed by Jean R. Puiforcat. In his regard for the essential quality of his material, in his emphasis on form and proportion, and in his avoidance of naturalistic decoration, Uuiforcat works in the present-day tradition. A leading French silversmith, he has for several years been represented in the Museum's collection by a number of pieces. Our new acquisitions are typical of his most recent work, a characteristic example being a beaker, subtle in form, its chief decoration a row of crystal balls inserted around the base. Puiforcat thus joins sparkling crystal and highly polished silver in a strikingly effective union. He uses the same combination of materials in a rather large, handsome bowl which, like the beaker, is devoid of elaborate ornament. Six curved segments of amber-colored glass, however, are attached to the base, apparently as supports, although actually their chief function is decorative. Another beaker by Puiforcat is designed with great distinction of form and with the simplicity that is so fitting for a vessel of this type.

There are also four striking examples of Swedish Silverware, the first to be added to the Museum's collection of contemporary decorative arts. They are the work of Erik Fleming, artistic director of the Borgila Studio in Stockholm and one of the most skillful and distinguished of Swedish designers. Fleming's original talent is evident in each of the new pieces. Perhaps his most pleasing work in this group is the small circular dish illustrated, of exquisite proportions anu decorated with handles composed of cleverly conventionalized flower forms. Of equal distinction is the handsome bonbon box which possesses the austere lines so widely adopted in post-war Germany and Scandinavia. Contrasting in design with the bonbon box is a dish of pleasant proportions, the shape of which is reminiscent of classical prototypes. The last object in this group by Fleming is a hand mirror with simple, well-placed ornament.

Likewise of Swedish provenance are two pieces of glassware from the Orrefors manufactory. The Museum already owns Orrefors glass designed by Edward Hald and Simon Gate, but it has until now possessed no specimen of the work of Viktor Lindstrand, who has recently become associated with this establishment. The more unusual of the two pieces is a rectangular vase of brownish purple glass, which deepens in color towards the base. A panther is represented on each of the four sides in a different pose. A vase of the same design is in the collection of the National Museum in Stockholm. Also by Lindstrand is another vase, of clear glass with fluent contours; the engraved ornament consists of a kneeling girl with a child on her shoulders.

The collection of Swedish ceramics is increased by the addition of an attractive vase made in the Gustafsberg manufactory after the design of Wilhelm Kage. It is of a type called Argenta ware because of the use of silver-colored ornament, which in this case is set against a glaze of mottled green. The first example of this model, it illustrates with what success the Swedes are producing well-designed and inexpensive objects for household decoration.

Rene Lalique was one of the leading figures in L'Art nouveau movement of several decades ago, and he remains today a highly effective designer in glass. We have purchased a necklace by this skillful and imaginative artist which consists of crystal glass curiously fashioned in the form of lovebirds resting on tooth-like motives. The birds are arranged in confronted pairs on a silver chain, in a manner suggesting certain primitive necklaces. It is, however, a highly sophisticated contemporary creation, typical of Lalique's elegant and very personal art. Similar to the necklace, but more frivolous, are the three women's rings of crystal glass with engraved floral designs. The rings are particularly unusual for the attractive coloring of the glass and the delicacy of the engraving.



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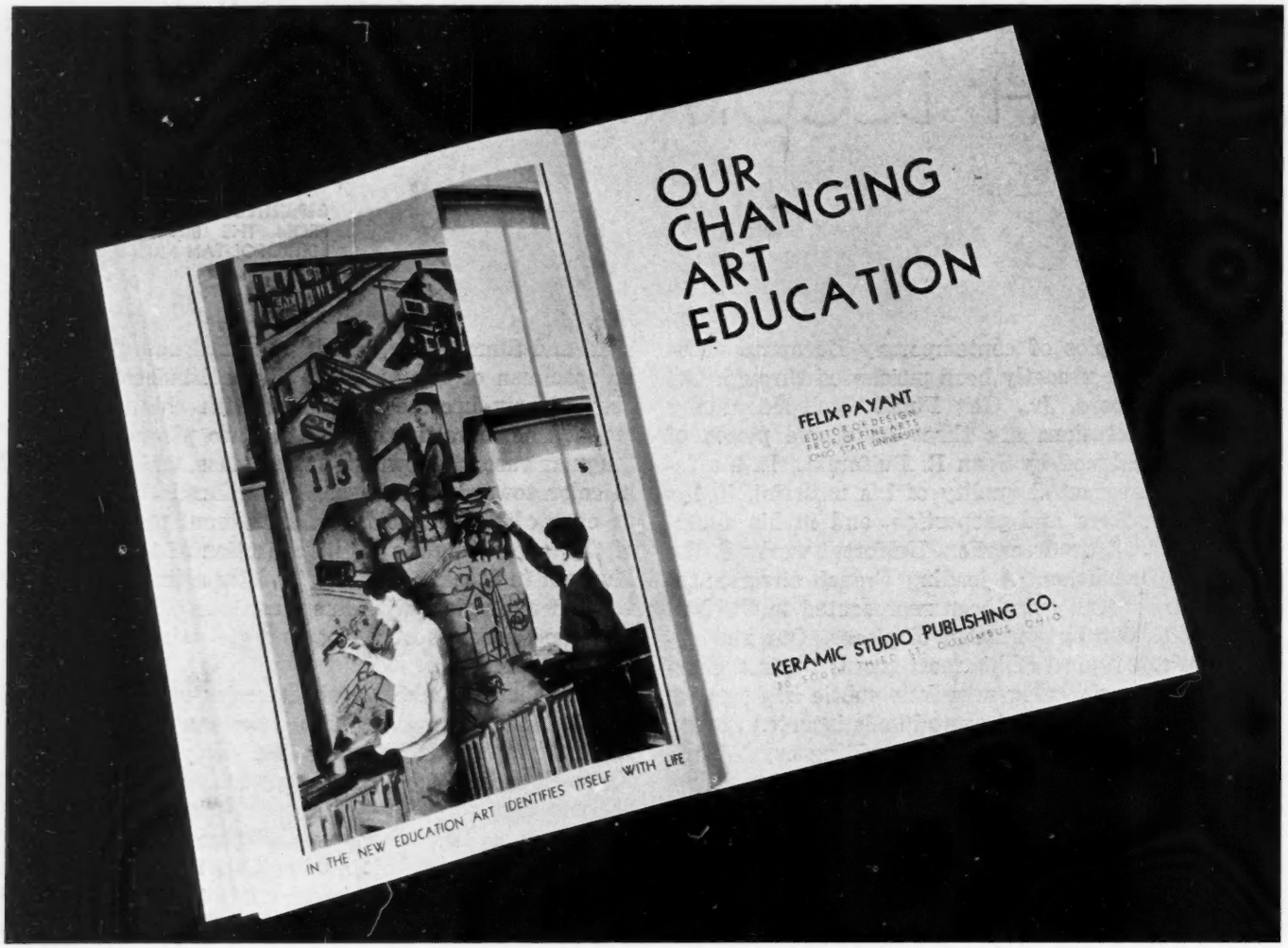
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